Philosophy of the Unconscious

Speculative Results according to the Inductive Method of Physical Science

BY

EDUARD VON HARTMANN

WITH A PRIFACE BY

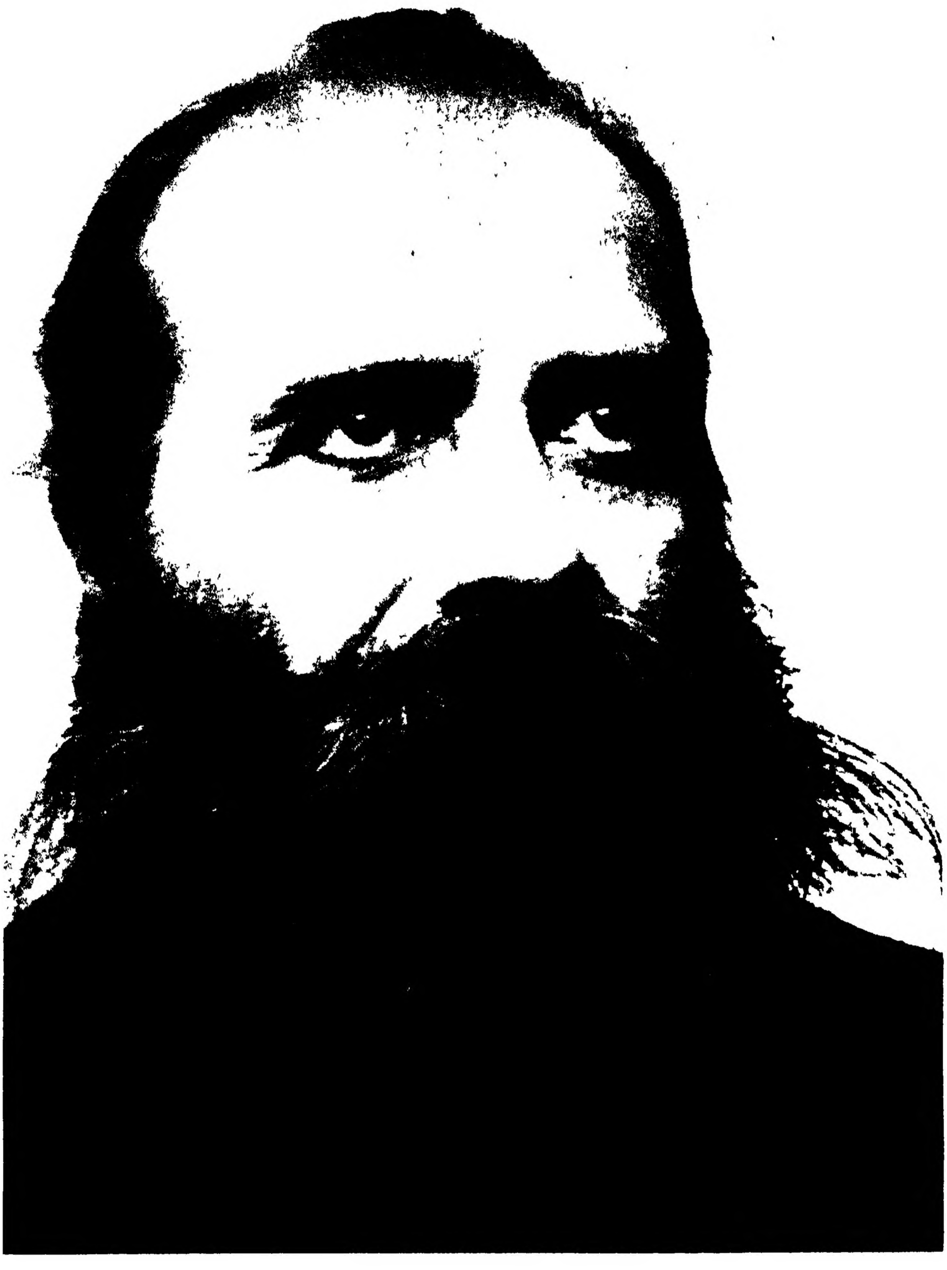
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PREFACE.

THE inclusion of "The Philosophy of the Unconscious" in the International Library of Psychology is justified on many grounds. The English translation has been out of print for some years, but the demand continues, and the re-issue in 1924 of Lange's "History of Materialism" established a precedent which has led to the hope that other standard treatises of the past may in due course again be made available in convenient form.

The original of the present work first appeared in November 1868, when its author, who died in 1906, was in his twenty-seventh year. The translation, made from the ninth German Edition, is dated 1884, ten years before the publication of Freud's first statement of the theory from which Psycho-analysis was subsequently developed. The latest German Edition published during the author's lifetime was the eleventh (1904), the twelfth being a re-issue without alteration.

Interest in Hartmann's conception of the Unconscious until the beginning of the present century was primarily metaphysical; his treatise was merely the first, and most significant, of the thirty volumes which set forth his "system." Only recently has the controversy as to the place of the Unconscious in psychological theory become acute, and to-day the pages which bear directly on psychology will probably make a wider appeal than those

which extend the scope of the inquiry to the nature and origin of the Universe.[1]

The translator, who occasionally adheres more closely to the idiom of the original than modern usage might sanction, quotes his master as follows: "This work is not the product of reflection and maturity, but the bold experiment of juvenile talent presenting all the defects and qualities of the work of youth. Fifteen years have passed since the manuscript first went to press, and I should conceive many things differently to-day." Hence the Appendix and supplementary notes which the reviewer is naïvely requested to bear in mind "when exercising his critical function"; for "that the work is open to criticism of various kinds the present translator does not for a moment doubt."

The doctrine of the Unconscious thus first came into prominence, like the doctrine of Evolution, in the latter half of the nineteenth century. Hartmann's first edition appeared ten years after Darwin's "Origin of Species," and subsequent controversy in both fields has been related primarily to these works rather than to the suggestions and speculations of their predecessors. The Freudian emphasis on determinism and wish-fulfilment takes us back, it is true, to the contention of Leibnitz that "the error of abstract determinism arises from neglect of subconscious perceptions and appetitions," and to Schopenhauer's view of the active Will (as taking the place of Kant's "thing-in-itself"[2]) as unconscious—"for con-

[1] For a general treatment of Hartmann's writings and their influence on German thought, the reader may consult "Eduard von Hartmann," by Wilhelm von Schnehen (vol. xx. in Frommann's "Klassikern der Philosophie," Stuttgart, 1929), to whom we are indebted for the portrait which appears as a frontispiece. The earlier study by Drews, "Ed. v. Hartmanns Philosophisches System im Grundriss" (Heidelberg, 1902), like the same author's less voluminous "Das Lebenswerk Ed. v. Hartmanns" (Leipzig, 1907), has also a metaphysical orientation.

[2] It is, however, at least open to question whether the Kantian epistemological ultimate, usually symbolized as a plurality (*Dingen-an-sich*), was rightly identified by Schopenhauer with his own volitional "Weltgrund"—always metaphysically conceived.

sciousness is conditioned by the intellect, and the intellect is a mere accident of our being." Similarly, the revisionist theories of evolution refer us back to Mendel and Lamarck. But if to Darwin must go the credit of first focussing the attention of the world on an Idea, even were science to retain nothing of his specific contribution, an analogous historical position may be claimed for Eduard von Hartmann.

From the historical standpoint, no doubt, an adumbration of the Unconscious is to be detected in any early treatment of the Dream; and it was the Cartesian advocacy of innate ideas which led to the Locke-Leibnitz duel and the Leibnitzian argument for the formation of the Unconscious from a multitude of "petites perceptions."[1] Nor must the influence of the Herbartian school, with its educational interest in the "apperception mass,"[2] be overlooked; though neither Herbart nor Beneke, who also made considerable use of the notion of unconscious "traces," seems to have had any great influence on Hartmann's formulation. Hartmann's own view of his relation to Kant, Schelling, Hegel, and Schopenhauer is fully set forth in his work,[3] and for English readers particular interest attaches to his discussion of the physiological theories of Maudsley, whose influence on the French school represented by Ribot and Paulhan was also considerable in the 'eighties.[4]

For over fifty years, however, Hartmann's three volumes have stood on the shelves of our libraries, and the English translation itself, like that of Lange's "History of Materialism," is a classic which the student has a right to expect in the form in which it was known to his spiritual pastors

[1] "New Essays," p. 47.

[2] Murphy, "An Historical Introduction to Modern Psychology" (1929), pp. 48–50.

[3] Also in his Preface to the eleventh German edition (1904).

[4] The original and independent theories of G. H. Lewes, Hering, Creighton, and Samuel Butler probably deserve more attention than such of the earlier approaches as are more familiar to the historian — the systematic treatment of "mental latency" by Hamilton, for example, or the neuro-physiological hypotheses of Mill and Carpenter.

and masters for nearly three generations—with the removal only of a few obvious blemishes.

In this form it has been mined and re-mined, sometimes with specific acknowledgment, more often, it would appear, by the Unconscious; and, for some decades still, those who have never made the acquaintance of the original are likely to find it not less stimulating, if perhaps less depressing, than did the Victorians to whom Pessimism was less interesting psychologically than as a disturbing "philosophy." A Dostoievsky, a Gide, a Rank, or even a Great War, leave their survivors hardened against any philosophy which has already taken its place as literature; it was William James himself who insisted that "civilization is founded on the shambles," and Freud's "The Future of an Illusion" is an application of the theory of the Unconscious to which many might find "Pendennis" a tonic.

With the various developments of the philosophy of the Unconscious by later writers there is no need to deal here. They fall roughly into four main groups:

1. Theories concerned with the phenomena of Psychical Research.
2. Theories due to the study of Automatism and Dissociation.
3. Theories concerned with practice of Suggestion and Auto-Suggestion.
4. Theories associated with the various schools of Psychoanalysis.

Of the first group the classic is Myers' "Human Personality," in which "a soul or spirit absolutely beyond our present analysis—a soul which has originated in a spiritual or 'metetherial' environment," is posited in addition to the "subliminal self," which corresponds more closely to the orthodox Unconscious; there is also the more recent literature associated with the studies of Dr. Walter Prince and the case of Doris Fitscher. To the second group belong such researches as those of Janet and Morton

Prince, introducing "the subconscious," "co-consciousness," and so forth. The third is represented by the theorists of the Nancy school, and the contribution of Sidis. The fourth is due to the genius of Freud, and its various aspects are represented in the present Library by the works of Jung, Adler, Van der Hoop, Rivers, and Rank.[1]

Though the time has not yet arrived when it is possible to assess the value of the various hypotheses which may now be related to Hartmann's pioneer formulation, it is at least becoming clear that from a symbolic standpoint we are concerned throughout with a highly dangerous series of metaphors. Just as the metaphor of "force" is now rigidly excluded by the physicist from any exact statement, so, as psychology advances or gives place to other sciences, its picturesque language will vanish like the vocabulary of "impulsions" and "resistances" which at a certain level have their descriptive usefulness. The "censor" and the "repressed complex" will then join the earlier doctrine of "possession," though at present the Unconscious, which in Hartmann's transcendental realism functions also as a new sort of Absolute, is often assumed to invade the personality much like a spirit from the underworld of medieval times.

Meanwhile, the Unconscious will continue to serve as a stimulus to controversy and as a pillar for the building of systems. Those who resent the systematising tendency in the present work may incline to attribute its defects to the author's early training as a Prussian artillery officer, before a defective knee-cap confronted him with the choice between music and philosophy as his life's work. Others

[1] A useful and carefully documented introduction to the historical and contemporary literature of the Unconscious will also be found i "Modern Theories of the Uncon scious" (London, 1924), by Dr. W. L. Northridge. Reference may further be made to Hartmann's own brief "Grundriss der Psychologie" (1908), and to the elaborate treatise of his disciple and commentator, Drews, "Psychologie des Unbewussten" (Berlin, 1924).

may find his advocacy of scientific induction, intuitive wisdom, and collective effort, the more attractive in virtue of its unusual setting.

"Whenever consciousness is able to replace the Unconscious, it *ought* to replace it, just because it is to the individual the higher, and such objections to it as that the constant application of conscious reason renders pedantic, costs too much time, etc., are mistaken; for pedantry only arises from *imperfect* use of the reason, when, in applying general rules, one does not take account of the particular differences, and reflection costs too much time only with deficient material of knowledge and unsatisfactory theoretical preparation for practice, or with irresolution, which can only be obviated by the use of reason itself."

And again:

"I may be proud of the work of consciousness, as my own deed, the fruit of my own hard labour; the fruit of the Unconscious is as it were a gift of the gods, and man is only its favoured messenger; it can therefore only teach him humility."

C. K. O.

MAGDALENE COLLEGE,
CAMBRIDGE.

AUTHOR'S PREFACE TO THE SEVENTH EDITION.

THAT I am in general no friend of prefaces, the previous six editions of this book have proved. When, however, a work meets with so kindly and indulgent a reception as the present one, it might be interpreted as a kind of affectation in the author if he persistently avoided that direct communication with his readers which is customary in prefaces. As I know myself to be as free from such prudery as from obtrusiveness, I will no longer abstain from appearing before the curtain in the usual fashion, and from discussing certain points of a somewhat external or even personal nature,—the less, as the attacks of opponents on my character and private life have already compelled me, by a frank description of my course of life,[1] to afford my readers the requisite materials for forming a judgment of their own on the value of those attacks.

I can truly say that never was author more surprised by the success of his book than I by that of the "Philosophy of the Unconscious." A moderate acquaintance with the history of the book-trade as regards philosophical literature would alone have sufficed to destroy any possible illusion of a young author's vanity; the lamentations of Schopenhauer on the tardiness with which a really important work makes its way, bore emphatic testimony to the compatibility of a certain self-consciousness with incredulity concerning outward literary results; public opinion at the time of the

[1] Cf. "Die Gegenwart," 1875, Nr. 1-3. The article has been reprinted in the "Gesammelte Studien und Aufsätze gemeinverständlichen Inhalts."

formation of the North German Alliance appeared moreover as unfavourable as possible for the reception of a systematic philosophical work; and lastly, I was, at the bottom of my heart, far too much of a Pessimist not to be prepared for the worst, as was only naturally to be expected from the apathy of the public as regards philosophical things in general, and the ill-will of the professional class towards the dilettante interloper in particular. If the result proved this prognosis to be erroneous, the reason was partly that it had been founded only on an observation of symptoms discernible on the mere fringe of the spiritual life; partly that journalism busied itself with unwonted energy with the new venture; partly, lastly, that my publisher had taken an especial interest in my efforts, and zealously exerted himself to push the sale of the book (all risks being from the first taken on his own shoulders).

The importance of the latter fact had been entirely overlooked by Schopenhauer, who had imagined that it was enough to write an important book and to print it at his his own cost, and the rest was the affair of the public. This view is, however, just as one-sided as the opposite one, that an altogether worthless book of an unknown author without any attraction for the public, even in a bad sense, could be helped to a trade success by a mere publisher's puff. Whilst all the industry of a publisher in respect of a book, that is not recommended by one reader to another, always leads only to commercial loss, it is true that what is good and important, commonly at the end of a chapter of accidents, is preserved from total oblivion, but it may have to make its way with extreme slowness.

If Schopenhauer had had my good fortune to find a publisher, who would have personally interested himself for his great work, those long decennia of entire neglect would have been spared him, which contributed so much more and more to embitter his peculiarly constituted mind, and to paralyse his rich creative powers. The consequence

would have been, that the German nation would have been imbued a generation earlier with the rich spirit of the Schopenhauerian Philosophy, and that the leisured philosopher would have received a powerful stimulus to apply his extraordinary talent during his long lifetime to the accomplishment of far more numerous and varied undertakings. In both respects the indirect effects, as regards the present mental horizon of the educated public in Germany, might have been simply incalculable.

That *Reviews* of the "Philosophy of the Unconscious" appeared in so unusually large a number, was doubtless owing to the circumstance that this book was discovered to afford a fit subject for discussion, not only by the professed philosophical magazines and the ordinary literary journals, but also by most of the more considerable reviews both at home and abroad, by the majority of the theological periodicals, by the most influential political newspapers of Germany and Austria, as well as, lastly, by certain educational and medical papers, and that the publishing house had not omitted to send copies for review to all these categories of periodical literature. The book was acknowledged, even by its chief opponents, in spite of the utmost deprecation of its fundamental tendency and particular assertions, to be yet for the most part a noteworthy phenomenon of recent philosophical authorship, and found perhaps among the reviewers of the literary and political journals so many warm friends, because among these the philosophy of Schopenhauer had prepared the ground for its comprehension. The two critics who were the first decidedly to point out the significance of the book were Councillor Dr. Rudolph Gottschall, and Dr. David Asher; those who perhaps exercised the relatively largest influence on the rapid diffusion of the book, Dr. Heinrich Landesmann (Hieronymus Lorm), and Dr. Carl Baron du Prel. All four stood substantially under the influence of Schopenhauer. But, likewise, on the part of certain Hegelians, the book early received warm acknowledgments, *e.g.*,

from Professor Dr. Ernst Kapp, and Dr. Max Schasler (President of the Philosophical Society of Berlin). It would lead me too far to cite here all the names of those to whose kind indulgence in their public criticism of my efforts I owe aid and encouragement to further labour; to all these men I herewith render my sincere thanks.

Not less, however, do I owe my highly-esteemed opponents and foes the greatest gratitude, who, by their unwearied attacks on my performances and efforts, have ever and anon turned the flagging attention of the public to my writings, and have kept alive the interest therein. Unhappily I must own, that among the many, who felt themselves *called* to critically annihilate me, there were only very few who could be deemed competent to speak on such questions. This phenomenon is quite natural, and is ever recurring; the first polemical demonstrations against a novel doctrine are almost always lacking in that unprejudiced perception and matter-of-fact objectivity, which can only appear in the course of time through a gradual clearing-up of speculative differences.

. . . .

But now that a philosophical book by a hitherto unknown author should so rapidly make its way in so many circles of the educated public, and that so many writers should be induced to undertake its critical examination in books, pamphlets, and journals, further needs for its explanation the recognition of two pre-suppositions founded on the circumstances of the time, namely, in the first place, a *fierce philosophical hunger* on the part of the public at large, concealed beneath the apparently extreme apathy in regard to philosophical inquiries; and, secondly, a state of *unusual* prostration of the Guild-philosophy professionally bound to satisfy this need. The attitude of contempt and scorn of philosophy so fashionable in the fifth and sixth decades of the century had, at the end of the last decennium, attained a pitch which had something forced and affected about it, like the old whistling of the peasant-boy at the dark churchyard; the unmetaphysical

empiricism, which little by little began to become alarmed at its self-glorification, was ripe for a sudden conversion, and what had prevented this conversion for so many years was only the forbidding aridity and poverty of the academical philosophy, which could not but strengthen the common contempt of philosophy in the minds of its entertainers. At this juncture appeared the "Philosophy of the Unconscious;" the public was able to absorb so relatively large a number of copies of this metaphysical work, because it had become, during the long period of philosophical unproductivity, as parched as a field after a prolonged drought, and the *exaggerated* estimate frequently formed of the "Philosophy of the Unconscious" must be in large measure attributed to the circumstance, that its value was measured against the background of the contemporary book-market of the Guild-philosophy, which gave it an intrinsically undeserved prominence by the force of contrast.

. . . .

The rapidly succeeding editions offered an opportunity to continually revise the matter of the work, to more fully elucidate those passages which had given rise to frequent misunderstandings, to fill up minor gaps which had become perceptible in the sequence of thought, to open up more varied prospects, if only by short indications, to lay bare more evidently and to fathom more deeply the inner connection of the principles, and to take account of the relevant progress of the special sciences in supplementary paragraphs. Welcome as this opportunity was to me on several grounds, no less burdensome was its frequent repetition. To work additions into a finished book is a far more troublesome and time-absorbing occupation than one may think who has not himself attempted it; and what was eminently distracting and disagreeable was the annual recurrence of the press corrections. To me the first reading through of what I have myself written is an extremely painful task; but to be obliged to be always

reading one's own production over and over again becomes at last so loathsome, that one gets to wonder how a third person can find any interest in it. Accordingly I felt it as a kind of release when the publishing firm proposed, on the preparation of the fifth edition, to stereotype the text. I felt very sensibly what important considerations oppose such a fixation of the work of a living author, but it still remained open to me to supplement subsequent additions, and the wish to free myself from the annual corrections, and once for all to have done with the book, was too urgent for me to be deterred by such scruples. It is a painful position, when a writer has given his interest and thought to new tasks, and is constantly hindered and distracted by the firstlings of his brain, who have become real powers, ever anew claiming at the hands of their father their right to further care and culture.

. . . .

That part of the "Philosophy of the Unconscious," which for some years had least satisfied my augmented demands, was Section A, on "The Manifestation of the Unconscious in Bodily Life." No one will wonder at this who is familiar with the progress of Physiology in general and that of Nervous Physiology in particular in the last decennium. When in the winter 1864–65 I wrote this section, the sources from which I had drawn my material were even then not of the newest date; I name in particular "Wagner's Dictionary of Physiology," and the manuals of Physiology by Johannes Müller, Valentin, and Burdach.[1] For certain chapters (*e.g.*, that on the Reparative Power of Nature) I was simply *compelled* to have recourse to older works, or to the writings of Burdach, because the more recent Physiology carefully ignored

[1] That to preserve the popular character of my book I have studiously refrained from quoting the authorities for my examples in detail has been largely laid hold of to my disparagement by some of my opponents, wherefore I now in the Appendix and Addenda furnish my vouchers.

everything that could not be forced into the materialistic mould. Here, however, a change for the better deserves to be signalised.

On the preparation of the third and fifth editions I hesitated considerably whether I should not subject Section A to a complete reconstruction, but, after mature reflection came to a negative conclusion. A philosophical, far more than any other scientific work, is bound to take account in its disposition and architectonic of artistic considerations, which of course need only have unconsciously co-operated in its composition. And as it is a dubious affair to alter an architectural plan or a drama, so too in the architectonic of a philosophical work, one removes undeniable errors and defects, and introduces fresh incongruities and disharmonies, of which there had been no thought. The connoisseur always sees, thereafter, that the work is not out of one mould, that he has patchwork and piece-work before him. Better is it, in such a case, one leaves the old with its defects just as it is, and *adds* something altogether new. This holds good not only for works of art, but also for philosophical works; for nowhere is it less imperative to set forth the truth as finished result than in Philosophy, where, on the contrary, what is strictly instructive and stimulating for the reader is to be sought in the opening the mental eye to a growing and broadening truth. Accordingly I have preferred not to withhold from the new readers, whom the "Philosophy of the Unconscious" hopes to obtain in this new edition, the original draught of Section A, but instead of a remodelling of the same, to add as an Appendix a dissertation "On the Physiology of the Nerve-Centres," from which they may perceive in what manner I should now treat this part in the event of a fresh composition. At the same time this Appendix serves as a *supplement* to Section A, the knowledge of which it presupposes in respect to the present advanced stage of our knowledge of the physiology of the Nervous System. Repetitions from

the text of the "Philosophy of the Unconscious" I have endeavoured to avoid, so far as the necessary connection of the dissertation admitted. As this Appendix is a *physiological*, so my book, "Truth and Error in Darwinism" [reproduced entire in the "Journal of Speculative Philosophy" (St. Louis, 1877–78)] forms a *biological* complement to the natural-philosophical part of the "Philosophy of the Unconscious," especially to Chapter VIII. A.; the close connection of the two supplementary writings will not escape the attentive reader.

I am quite conscious of the difficulty of my position with regard to contemporary representatives of Physical Science. They are either adherents of the old school, *i.e.*, they pay homage to a so-called exact empiricism, which never ventures to elevate its glance from the scrutiny of the particular to a more general survey of the great whole, and cross themselves in the presence of all philosophy; or they aim at a natural-philosophical theory of the world —are thus adherents of Darwinism in its crass mechanical and anti-teleological form. The one class, as matter of course, has a horror of *all* philosophy as such, no matter whether the latter endeavours on its part to strike up an alliance with Physical Science or not; the other class recognises, indeed, in principle the necessity of an understanding between Natural Science and Philosophy, but thinks it sees in the teleological metaphysic espoused by me the opponent of that philosophy, to which alone it hopes to throw a bridge. Thus it comes to pass that the one part of scientists ignores me because I am *philosopher*, the other combats me because I am *such* a philosopher. But already the first signs of a rising generation are discernible, which recognises not only the title of philosophy in general, but also the title of an idealistic philosophy beside and above the mechanical cosmic theory of the Sciences of Matter, a union, which alone is able to reconcile that Idealism, to which the German people owes its greatness, with the results of the most recent investigation,

and to obviate a total breach between the Future and the Past, between the Intellect and the Heart. It is my firm conviction that the exclusively mechanical Cosmism of Darwinism is only an historical transition from the prior shallow Materialism to a complete and whole Ideal-realism, and will only serve to effect and facilitate the passing of the living and rising generation of physical inquirers from one pole to the other. In furthering this indispensable and inevitable reconciliation of modern Physical Science, and its grand but one-sided results, with the idealistic culture of our nation, I believe that I am in fact doing a better service to Natural Science than those exclusive devotees of the same, who possess the in itself estimable courage of consistency, of desiring to subject the whole modern theory of the world to a radical transformation, according to the partial method of Physical Science, in which the highest spiritual treasures of our civilisation must perforce fall a sacrifice to consistency.

Until the coming race of naturalists acknowledges my efforts in this direction I must be satisfied with the recognition, which has already been accorded thereto in rich measure by those representatives of our idealistic culture, who, far removed from ignoring or condemning the results of modern physical science, perceive *the necessity of an organic fusion of the same with idealism,* but have hitherto missed a suitable leader in the solution of this problem declared impossible by the exclusive representatives of Physical Science itself. On this ground for some time even Theology has begun to prize in me a valuable ally, although hardly any one has more plainly declared than I, that Christianity is no longer a vital factor of our developing civilisation, and has already traversed all its phases.

On this point I am perfectly clear, that in future as hitherto I shall please no party and no school; but just as certain also am I that this is at least a negative condition for everything important, although this character-

istic applies just as well to the fanciful and absurd. Although, however, I may give satisfaction to no party and to no school, yet at least all know precisely and unambiguously where I stand, since what I will and what I mean, I have at all times said straight out, and sometimes perhaps all too clearly. In fact, this frank attitude of mine has made it very easy for the dissident schools to take up on their part likewise a clear position in regard to me, what is displeasing to them to blame and reject, and what is congenial to them to acknowledge with respect.

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EDUARD VON HARTMANN.

BERLIN, *October* 1875.

AUTHOR'S PREFACE TO THE EIGHTH EDITION.

ALTHOUGH, since the appearance of the seventh edition the unfavourable circumstances of the times have pressed in an unusual degree on the whole book trade, and scientific literature in particular has been most seriously affected by the contraction of the literary budget of the reading public, yet it is permitted me to issue an eighth edition, and I feel the greater debt of gratitude to the public for this persistent and unusual sympathy, as two years ago it was considered that the demand for the "Philosophy of the Unconscious" in Germany had been sufficiently met for some time to come by the first six editions. If the erroneousness of this conjecture forms, on the one side, for the author a grateful encouragement to his labours, yet, on the other hand, it is also not to be denied that in the extensive sale which the "Philosophy of the Unconscious" has found in the circles of the general public (the first seven editions represent over ten thousand copies) there lies a not inconsiderable danger for the correct estimate of the collective philosophical tendencies of the author, because a historically established judgment on the part of experts, which might serve as a standard to the laity, has not yet been formed, and the judgment of the laity is commonly determined more by what strikes the eye than by the less readily discernible inner nature of things. Only too many of those, who buy or borrow the "Philosophy of the Unconscious," feel their "metaphysical need" satisfied when they have turned over the chapters on Love and the Misery of Existence, and think they may

now chime in with a good conscience when the topic of conversation is the "Philosophy of the Unconscious." "Philosophy of the Unconscious, Continuator of Schopenhauer, fashionable representative of Pessimism," such one-sided and often uncomprehended catchwords are sufficient to legitimate them as connoisseurs; the phrases get attached to the name "Hartmann" like a label, which must henceforth adhere to it as if they were a part of the author's own signature. Had the "Philosophy of the Unconscious" lived through its two or three instead of eight editions in nine years, and had it not broken through the sphere of a scientific circle of readers in this time, it is probable the fame of its author would have been less in advance of his performances, but in compensation his name would not have been linked with so one-sided a signature, which at present forms a hindrance to the unprejudiced estimation of his later achievements.

My opinion by no means implies that the conquest of the strata of the reading public, who hitherto have stood aloof from all philosophy, is to be deplored because obtained through the "Philosophy of the Unconscious," but only that the stopping half-way of such readers is to be deplored. The clearness and intelligibility of the "Philosophy of the Unconscious" has been abundantly praised; but this is still only very relative, merely conspicuous by comparison with other philosophical works. And no one has ever asserted that for the sake of general intelligibility I have anywhere omitted to dig below the problems as deeply as lay in my power; the "Philosophy of the Unconscious" is thus anything but popular in the sense of the popularisation of scientific results. In fact we hear, even from most laymen, who approach its reading unprepared, that they have not understood the main discussions. What then alone can give the key for judging, remains *un*-understood; but what also without this key *appears* in itself clear and intelligible, is, because conceived out of its systematic connection, necessarily *mis*-understood.

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As an introduction to the author's sphere of thought, are now to be mentioned in the first rank, the "Gesammelte Studien und Aufsätze gemeinverständlichen Inhalts," especially their first three sections, which may serve the purpose of obviating at the outset many errors and misunderstandings with regard to the tendencies of the author. In the second rank, the writings on "The Self-Disintegration of Christianity" [translated in the "Religio-Philosophical Journal," vols. 29–31, appearing in Chicago], and "Truth and Error in Darwinism" [see p. xviii.], of which the former appears suited to render clear the contrast of the author to the shallow negativity of a D. F. Strauss, and to show, that if he combats Christianity, he does this not to combat religion, but to serve religion, and to bring again to honour and to render possible that which has become impossible through its defenders. The study on Darwinism is certainly only to be recommended to such readers as have already been instructed by a more detailed work on the aims and argumentations of Darwinism; as the knowledge of this burning question, however, belongs at the present time to the elements of a higher culture, this supposition will for the most part be already fulfilled, or if not, yet be readily enough made good. Together with the "natural philosophical contributions" (sec. C.) of the "Gesammelte Studien und Aufsätze," this writing forms a suitable naturalistic preparation for the reading of the "Philosophy of the Unconscious."

As every philosophical system is the product of its time, and its historical and scientific significance can only be rightly estimated in its connection with the history of philosophy, the most important preparation for the understanding of the "Philosophy of the Unconscious" is an acquaintance with the preceding systems of German speculation, and with the position which the former, according to the author's aim, is intended to occupy as regards the latter. To afford this historical introduction is the function of sect. D. of the "Gesammelte Studien und Aufsätze,"

entitled "The philosophical starry triad of the nineteenth century." Here, without doubt, the layman will encounter many a difficulty; but if he allows himself to be deterred thereby, he has no prospect of overcoming the like difficulties in the still more condensed hints of the "Philosophy of the Unconscious," whilst that which remains obscure in the reading of that introduction can very well be cleared up subsequently by acquaintance with the author's circle of ideas in their systematic connection.

If the above-mentioned natural-philosophical preparation serves the purpose of making intelligible to the reader the reconciliation and fusion of modern physical science and philosophy attempted by me, this historical introduction will enable him to comprehend the synthesis accomplished by my philosophy of two philosophical mental tendencies apparently so antipathetic, which have been fruitful and decisive for the mental life of Germany in the last two generations: Hegelianism and Schopenhauerianism. The *historical* significance of my philosophy must essentially be sought in the two mentioned syntheses; which of the two in an historical point of view deserves the pre-eminence, might be difficult for contemporaries to determine. From the historical point of view the chief value of the Principle of the Unconscious may have to be sought in this, that *only* by this principle are those two syntheses rendered *possible*.

The most important test for the verifying of philosophical systems in real life is to be seen in the solution of the ethical problems resulting from them. The author of a highly defective theoretical philosophy obtains, if not a justification, yet to a certain extent an excuse and personal rehabilitation, if he—at whatever cost of philosophical consistency—advances a powerful and valuable moral cosmic theory. But when such an one makes good its claim in a form possessing certain advantages over all earlier moral standpoints as a natural consequence of the theoretical principles, then the latter obtain

thereby a highly-important indirect confirmation, and the whole system acquires in such a case a far higher philosophical and practical value. The exposition of the ethical standpoint will be the more important for a philosopher, and he will the more urgently wish the cognisance of the same before the pronouncing of a general judgment on his point of view, the more original his theoretic cosmic theory is, the more it contains elements deviating from current opinion, *i.e.*, paradoxical, and the more occasion it gives on this ground to erroneous inferences respecting the practical consequences flowing therefrom. That the "Philosophy of the Unconscious," particularly in consequence of the incoherent apprehension of its pessimism and confusion with the system of Schopenhauer, has led to the grossest misunderstandings as regards its practical consequences, and has thereby called forth reproaches as severe as groundless, is sufficiently well known; and in order that such mistakes may be avoided for the future, I would emphatically advise that, where it is practicable, my readers should make themselves previously acquainted with my ethical views before they undertake the reading of the "Philosophy of the Unconscious." The "Phänomenologie des sittlichen Bewusstseins," now in the press, in which those views are expounded, is an altogether popular work, which, in contrast to the "Philosophy of the Unconscious," requires no previous knowledge in a philosophical or scientific reference, is independently constructed from its foundation, and is therefore very suitable for being read without any previous acquaintance with the rest of my philosophical efforts. Whoever has first made acquaintance with my second chief work will without doubt regard my first main work with quite other eyes, because he brings with him at starting a definite opinion on the practical fertility of the ideas developed therein, which may be described as the counterpart of the paradoxical impression commonly received by unprepared readers.

However much weight may be assigned, in judging a

system, to the sides hitherto discussed, it will yet remain indisputable that the decisive point for the *theoretical* estimation of such must be sought in the fundamental theory of knowledge. The theory of knowledge is the true *philosophia prima*; with the right or wrong attitude to the problems of the theory of knowledge the decision is already made, whether the particular thinker is on the right or wrong road in his efforts to solve the metaphysical problems, and this holds more than ever good of a system of the present time, which has brought to full consciousness the importance of the theory of knowledge, first placed in the right light by Kant, after its treatment had been pushed on one side by the great successors of Kant as a matter already settled by Kant. The whole reach of the theoretical contrast, in which I find myself with respect to Schopenhauer as to all others standing theoretically on Kantian ground, he alone is able to appreciate who has taken the trouble to go through my writings specially devoted to these questions. Such an one will, however, no longer be able to misunderstand the relation of my system, merely hinted at in the "Philosophy of the Unconscious," to the problems of the theory of knowledge, as has happened on the part of those readers of the "Philosophy of the Unconscious" who imagined they could characterise me, despite that diametrical opposition to Schopenhauer, simply as his continuator. All readers, who stand substantially on the ground of the Kantian transcendental Idealism, as represented by Fichte, by Schelling in his youth, by Schopenhauer, and by a part of the Hegelian school, I must beg to read my writings concerning the theory of Cognition *before* the "Philosophy of the Unconscious," and the same holds good in a metaphysical respect of my memoir "on the Dialectical Method" for all adherents of Hegel, who still see in his method an essential and inseparable element of his philosophical achievements. For laymen, on the contrary, who have hitherto kept off the mistaken paths of subjective Idealism and the Hegelian Dialectic, the reading of the speci-

fied writings may be less necessary and not even recommendable before acquaintance with the Philosophy of the Unconscious, because the material difficulties to be overcome in them might easily deter from further philosophical studies. Only the preface to the second edition of the "Kritische Grundlegung des transcendentalen Realismus" I could wish to see read also by laymen *before* the Philosophy of the Unconscious, because they will get therefrom at any rate an inkling, that I raise the claim, to have made the first decided step in the Theory of Knowledge since Kant.

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I conclude with some words from my preface to the French Translation, p. iii., "La philosophè de l'Inconscient n'est pas un système: elle se borne à tracer les linéaments principaux d'un système. Elle n'est pas la conclusion, mais le programme d'une vie entière de travail: pour achever l'œuvre, la santé et une longue vie seraient nécessaires." May there be found in the sum of my other publications the honest attempt at a payment on account of the assumed obligation, and the "Philosophy of the Unconscious" be henceforth read and judged as an integral part of the totality of my philosophical works.

EDUARD VON HARTMANN.

BERLIN, *January* 1878.

AUTHOR'S PREFACE TO THE NINTH EDITION.

As the eighth edition of this work appeared simultaneously with my second principal work, so I issue the ninth simultaneously with my third principal work. If at the close of the preface of the eighth edition I described the "Philosophy of the Unconscious" as the programme of my life, the two other extant chief works yield the proof that hitherto at any rate good will has not been wanting to carry out the programme.

The "Phänomenologie des sittlichen Bewusstseins," which appeared at the end of the year 1878, is no complete system of Ethics, but only the first introductory part of such, and therefore described by its title as "Prolegomena to every future Ethics." The System of Ethics would with me embrace, besides this introductory ethical doctrine of Principles, a Social Ethic and an Individual Ethic. The working out of an Individual Ethic appeared to me least urgent, that of Social Ethic, on the contrary, very desirable indeed, but yet bound up with considerable material difficulties, which it is hoped will receive some illumination by the progress of social-political legislation. Accordingly, while for the treatment of Social Ethics some delay might appear desirable, I had excellent reasons for the speedy presentation of my "Religious Philosophy;" for, for the treatment which Social Ethics might eventually experience at my hands there were numerous hints to be found, both in the "Phänomenologie des sittlichen Bewusstseins" as well as in other of my writings; but my attitude towards Religious Philosophy could on the basis

of the "Philosophy of the Unconscious" and the little monograph on the Self-disintegration of Christianity hardly even approximately be rightly estimated.

The "Phänomenologie des sittlichen Bewesstseins" turned the polemic of the philosophers and theologians against me into a new phase. Hitherto I had been met with the argument that Pessimism must be intrinsically without an Ethic; but now, when the Ethics of Pessimism had in principle come to light, that argument could no longer hold water, and it was now contended that this Ethics was worth nothing, because it was the Ethics of Pessimism. Thereby the contest concerning Pessimism was renewed, but also at the same time carried over to a new battlefield. I felt moved to plunge into this discussion with some journalistic disquisitions and essays, which, at the end of 1880, were collected, and appeared in pamphlet form under the title "Zur Geschichte und Begründung des Pessimismus." The first shows that not Schopenhauer but Kant is the father of the Pessimism advocated by me, whereas Schopenhauer has one-sidedly disfigured and spoilt the Kantian Pessimism; the second refutes the objections which deny that Pessimism is a problem of science, or soluble by science; the third has the task of sharply separating the ethically valuable Pessimism advocated by me from sundry ethically questionable and injurious varieties of Pessimism, and the fourth gives a phenomenology of Suffering, as it were, which already serves as a transitional chord from Ethics to the Philosophy of Religion.

The effects of my "Phänomenologie" on the public reach manifestly less widely and more deeply than those of the "Philosophy of the Unconscious;" the polemic called forth by the former is, it is true, not yet free from obliquities and misunderstandings, but it is far more scientific, more intelligent and thorough than that, which, in the first four years after the appearance of the "Philosophy of the Unconscious," saw the light. The polemic on the

"Phänomenologie" has manifestly not a little contributed to correct the previous judgment of the "Philosophy of the Unconscious," and to silence much superficial chatter. I hope that this will be the case in still higher degree with my "Philosophy of Religion," which yields the proof that my philosophy is just as little non-religious as non-ethical, but in both respects stands in perfect continuity with the previous course of development of the consciousness of humanity.

In the "Philosophy of Religion" my standpoint, as I have already indicated in the closing section of the "Self-disintegration of Christianity," specially represents a synthesis of the Christian and Indian Religions, or a synthesis of Hegelianism and Schopenhauerism. For that purpose it was important to me to come to terms with the present leading representatives of a speculative Christian Theology, as this has been developed from the twofold starting-point of Hegel and Schleiermacher. I have done this in the memoir: "Die Krisis des Christenthums in der modernen Theologie." As in the "Self-disintegration" I had criticised the vulgar liberal Protestantism, so here speculative Protestantism, and by how much the latter is philosophically more considerable and of greater religious worth than the former, so much the more important is also the critique of the latter than that of the former. But as the subject is more difficult and requires a subtler handling, the later writing has by no means received the same amount of notice as the former; it may be that this is owing in part to the circumstances of the times.

My third principal work consists now of two parts; the first, historically critical part, appeared at the end of 1881, under the title: "Das religiöse Bewusstsein der Menschheit im Stufengang seiner Entwickelung;" the second, systematic part, is issued simultaneously with this ninth edition of the "Philosophy of the Unconscious," under the title, "Die Religion des Geistes." The first part deduces from the previous course of evolution of the religious conscious-

ness of humanity by immanent criticism that stage as historical postulate, to which Religion must accordingly in consistency be elevated; the second part systematically carries out the point of view merely hinted at in the first, not, however, in dogmatic, but in phenomenological form, *i.e.*, by a psychological analysis of the religious consciousness and by deduction of its metaphysical postulates and ethical consequences.

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EDUARD VON HARTMANN.

BERLIN, *August* 1882.

PHILOSOPHY OF THE UNCONSCIOUS.

INTRODUCTORY.

General Preliminary Observations.

(*a.*) *Object of the Work.*

"*To have ideas, and yet not be conscious of them,*—there seems to be a contradiction in that; for how can we know that we have them, if we are not conscious of them? Nevertheless, we may become aware indirectly that we have an idea, although we be not directly cognisant of the same" (Kant, "Anthropology," sec. 5, "Of the ideas which we have without being conscious of them"). These clear words of the great clear thinker of Königsberg offer at once a starting-point for our investigation, and the field of inquiry itself.

The sphere of Consciousness is like a vine-clad hill which has been so often ploughed up in all directions, that the thought of further labour has become almost loathsome to the public mind; for the looked-for treasure is never found, although rich and unexpected crops have sprung from the well-worked soil. Mankind very naturally began its researches in Philosophy with the examination of what was immediately given in Consciousness; may

it not now be lured, by the charm of novelty and the hope of a great reward, to seek the golden treasure in the mountain's depths, in the noble ores of its rocky beds, rather than on the surface of the fruitful earth? Undoubtedly auger and chisel and prolonged irksome labour will be needed before the golden veins are reached, and then a tedious dressing of the ore ere the treasure be secured. Let him, however, who is not afraid of toil follow me. Is not indeed the supreme enjoyment to be found in labour itself?

The conception "unconscious idea" is certainly somewhat paradoxical to the *naïve* understanding, but the contradiction contained therein is—as Kant says—only apparent. For if we can only be cognisant of the actual contents of consciousness—thus can have no knowledge of aught out of consciousness—by what right do we assert that that, whose existence is revealed in consciousness, could not also exist outside our consciousness? Truly in such a case we should be able to affirm neither existence nor non-existence, and accordingly would have to rest content with the assumption of non-existence, until in some other way we acquired the right to make positive affirmation of existence. This has generally been the view adopted up to the present time. The more, however, Philosophy has abandoned the dogmatic assumption of immediate cognition through sense or understanding, and the more it has perceived the highly indirect cognisability of everything previously regarded as immediate content of Consciousness, the higher naturally has risen the value of indirect proofs of existence. Accordingly, reflective minds have from time to time appeared, who have felt constrained to fall back upon the existence of unconscious ideas as the cause of certain mental phenomena otherwise totally inexplicable. To collect these phenomena, to render probable the existence of unconscious ideas and unconscious will from the evidence of the particular cases, and through their

combination to raise this probability to a degree bordering on certainty, is the object of the first two sections of the present work. The first treats of phenomena of a physiological and zoopsychological nature, the second deals with the department of mental science.

By means of this principle of the Unconscious the phenomena in question at once receive their only possible explanation, an explanation which either has not been expressly stated before, or could not obtain recognition, for the simple reason that the principle itself can only be established through a comparison of *all* the relevant phenomena. Moreover, by the application of this as yet undeveloped principle, a prospect opens up of quite novel modes of treating matters hitherto supposed to be perfectly well known. A number of the contrarieties and antinomies of earlier creeds and systems are reconciled by the adoption of a higher point of view, embracing within its scope opposed aspects as incomplete truths. In a word, the principle is shown to be in the highest degree fruitful for special questions. Far more important than this, however, is the way in which the principle of the Unconscious is imperceptibly extended beyond the physical and psychical domains to achieve the solution of problems which, to adopt the common language, would be said to belong to the province of *metaphysics*. These consequences flow so simply and naturally from the application of our principle to physical and pyschological inquiries, that the transition to another department would not be remarked at all, if the subject-matter of those questions were not otherwise familiar to us. There is a general tendency of thought towards this single principle. In each succeeding chapter one piece more of the world *crystallises*, as it were, around this *nucleus*, until, expanded to *all-unity*, it embraces the Cosmos, and at last is suddenly revealed as that which has formed the core of all great philosophies, the Substance of Spinoza, the Absolute Ego of Fichte,

Schelling's Absolute Subject-Object, the Absolute Idea of Plato and Hegel, Schopenhauer's Will, &c.

I beg, therefore, no one to take offence at this notion of unconscious representation if at first it have little positive significance. The positive content of the conception can only be gradually *acquired in the course* of the investigation. Let it at first suffice that an unknown cause of certain processes, outside of and yet not essentially foreign to Consciousness, is thereby signified, receiving the name "idea," because it has in common with what is known in Consciousness an *ideal* content, which itself has no reality, but can at the most resemble an external reality in the ideal image. The notion of unconscious will is clearer in itself, and appears less paradoxical (comp. Chap. A. i. conclusion). As it will be shown in Chap. B. iii. that Feeling can be resolved into Will and Idea, these two being thus the *only* fundamental psychical functions which, according to Chap. A. iii., are inseparably *one*, so far as they are conscious, I designate the united unconscious will and unconscious idea "the Unconscious." Since, however, this unity again only rests upon the identity of the unconsciously willing and unconsciously thinking subject (Chap. C. xv. 4), the expression "the Unconscious" denotes also this identical subject of the unconscious psychical functions,—a something in the main unknown, it is true, but of which we may at least affirm, that *besides* the *negative* attributes "being unconscious and exercising functions unconsciously," it possesses also the essentially positive attributes "willing and representing." As long as our speculation does not transgress the limits of individuality, this may be sufficiently clear. When we, however, view the world as a whole, the expression "the Unconscious" acquires the force not only of an *abstraction* from all unconscious individual functions and subjects, but also of a *collective*, comprehending the foregoing both extensively and inten-

sively. Lastly, it will appear from Chap. C. vii. that all unconscious operations spring *from one same* subject, which has only its phenomenal revelation in the several individuals, so that "the Unconscious" signifies this One Absolute subject. This must suffice as a general indication of our theme.

"Philosophy is the history of philosophy,"—to that I subscribe with all my heart. He, however, who should take this assertion to mean that truth is to be found in the past alone would fall into a very serious error; for there is a dead and a living past in the history of Philosophy, and *life* is only to be found in the *present*. Thus in a tree, the solid stem of dead-wood which defies the storm is formed by the growth of earlier years, and a thin layer alone contains the life of the mighty plant, until in the next year it too is numbered with the dead. It was not the leaves and flowers, which captivated the beholders in bygone summers, that gave enduring strength to the tree,—these at the most contributed, when fallen and faded, to manure its roots,—it was the slight and unregarded annular growth of the stem, and the insignificant young shoots, that increased its girth, height, and solidity. It is not merely strength for which the living ring is debtor to its dead forefathers, but by holding them in its embrace, expansion likewise; wherefore for the newly sprouting ring, as for the tree, the first law is really to embrace and enfold all its predecessors, the second, to grow from the root upwards self-dependently. The problem how to fulfil these two conditions in Philosophy verges on the paradoxical, for they who overlook the situation have usually lost the ingenuousness necessary for making a true beginning, and he, who attempts a new departure, generally presents some crude dilettante product from having insufficiently appreciated the previous historic evolution.

I believe that the principle of the Unconscious, which forms the focus in which all the rays of our inquiry

meet, *when conceived in its generality*, may not improperly be regarded as a new point of view. How far I have succeeded in penetrating into the spirit of the previous development of Philosophy I must leave to the judgment of the reader. I will only remark that, having regard to the plan of the work, the proof, that nearly everything that can be looked upon as genuine heart-wood in the history of Philosophy is embraced in the final results, must be limited to brief hints, which have in part been more elaborated in various special inquiries, to which reference will be made at the proper place.

(*b.*) *Method of Research and Mode of Exposition.*

Three leading methods of research are to be distinguished—the dialectic (Hegelian), the deductive (from above downwards), and the inductive (from below upwards). The dialectic method I must, without now entering upon reasons *pro* or *con*,[1] entirely exclude, for the reason that, at least in the accepted form of it, it is ill-adapted for common comprehension, a feature which cannot here be overlooked. The advocates of that method, who are above all others bound to recognise the relativity of truth, will, it is hoped, not condemn the present work on account of its naturalistic character, especially when they consider the positive stand made against common opponents, and its utility as a propædeutic for non-philosophers. We have then to weigh the comparative advantages of the deductive or descending, and of the inductive or ascending method.

Man arrives at the scientific stage when he tries to comprehend and explain to himself the totality of the phenomena which surround him. Phenomena are effects whose causes he desires to know. As different causes

[1] My own opinion will be found in a monograph entitled "Ueber die dialektische Methode" (Berlin, 1864, C. Duncker).

may have the same effect (*e.g.*, friction, the galvanic current, and chemical changes, Heat), so, too, a single effect can have different causes. The cause *assumed* for an effect is consequently only a hypothesis, which can by no means possess certainty, but only a probability, to be determined by extraneous considerations.

Let the probability that U_1 is the cause of the phenomenon E be $= u_1$, and the probability that U_2 is the cause of U_1 be $= u_2$, then the probability that U_2 is the remote cause of $E = u_1, u_2$; from which it is clear that at every stage backwards in the chain of causation the coefficients of probability of the several causes in respect of their proximate effects go on multiplying, *i.e.*, become continually smaller (*e.g.*, $\frac{8}{10}$ multiplied by itself nine times becomes about $\frac{1}{10}$.) If the degree of probability of the causes did not again rise through the number of hypothetical causes becoming fewer, and through more effects being explicable by a single cause,[1] the probabilities would soon by continual multiplication reach values so small as to be unserviceable. Now if the causes of all cosmical phenomena could be regressively traced, until they were referred to one or a few ultimate causes or principles, Science, which is one, as the world is one, might attain perfection by way of the inductive method.

Supposing, however, any one to have solved this problem in a more or less complete form, the question still remains, whether, in imparting his convictions to others, he would do better to follow the track from phenomena backwards and upwards to the original causes, or to deduce the existing world from such first principles? We are dealing here with an alternative; for when Schelling in his final system asserts the necessity of a combination of both processes, beginning (see Werke, Abth. ii. Bd. 3, S. 151, Anm.) with a negative ascending philosophy, and concluding with a positive descending

[1] The increase takes place according to the formula developed on pp. 53 and 54.

philosophy, this duplication is only made possible by assigning a distinct sphere to each, and by retaining the former for the purely logical domain. In other words, he applies the inductive method only to facts of *inner* thought-experience (comp. Werke, ii. 1, pp. 321 and 326), whilst in his positive philosophy he seeks to exhibit the highest Idea thus obtained as result as the *really Existent* and the principle of all Being (comp. ii. 3, p. 150), endeavouring to derive therefrom the facts of *outer* experience by means of the deductive method. (Krause's ascending and descending didactic order is somewhat similar.) Even *if* the results thus deductively obtained in any way satisfied the demands of Science, still such an arbitrary separation of inner and outer experience could not be scientifically justified; and in any case, as regards the *latter* province, the *before-mentioned* alternative would again present itself, whether the ascending or descending method be preferable for exposition. The decision must undoubtedly be given in favour of the ascending or inductive method; for—

1. As the person to be guided dwells in the lower region of fact, his proper starting-point is there, and his upward course is always from the known to the unknown. On the other hand, to place him at the outset at the point of view of first principles would necessitate a *salto mortale*, and then he would have to proceed from one unknown point to another, only reaching the known again at the conclusion of his journey.

2. Every one is persuaded that his own opinion is the correct one, and consequently distrusts any novel doctrine. He must, therefore, know *how* another has arrived at his sublime results, if his own distrust is to be removed, and this requires the employment of the ascending method.

3. Men are secretly inclined to distrust their own *understandings*, as well as obstinately to stand by *opinions* once adopted. It is therefore exceedingly difficult to

convince any person by deduction, because he always distrusts the method, even when he has no specific objection to raise; whereas in induction he needs think less strenuously and exactly, but can, as it were, touch the truth by sight and direct perception.

4. Deduction from first principles, supposing it to be absolutely flawless, may perhaps be imposing by its vastness, compactness, and subtlety, but does not produce conviction. For since the same effects can arise from different causes, in the most favourable case deduction only proves the *possibility of these* principles, by no means their necessity; it does not even give them a coefficient of probability, as the inductive method does, never advancing beyond the *bare notion of possibility.* To speak figuratively, it is undoubtedly indifferent, if we want to become acquainted with the Rhine, whether we travel up-stream or down-stream; but for the dweller at the mouth of the Rhine the natural course is up-stream, for if a magician should come and transport him in a twinkling to the source of a certain river, he would be wholly unable to tell if it were really the source of the *Rhine*, and whether he is not about to undertake a long, tedious journey in vain. And when he arrives at this river's mouth, and finds himself in an unfamiliar region instead of in his own home, the wizard perhaps tries to persuade him that it really is his home, and many a one readily credits him for the sake of the beautiful journey itself.

After what has been stated, it would be inexplicable how anybody who had arrived at his principles by the inductive path should take the deductive method for their communication and proof; and, in fact, this never occurs. The truth is, that philosophers who deduce their systems (whether the method be revealed or concealed), have arrived at their principles by the only way save induction which is open to them, viz., by a sort of mystical flight, as will be shown in Chap. B. ix. In their case

deduction is the attempt to descend from the mystically acquired results to the reality to be explained, and that too by a path, which has always possessed a fascination for system-loving minds dazzled by the certainty of the results attained in the very different science of mathematics. For such philosophers deduction is certainly the appropriate method, since their given starting-point is the upper region of thought. Apart from the circumstance that both the method of proof itself as well as the principles to be proved must always, as everything human, be defective, and that accordingly deduction always leaves an unfilled interval between primary principles and the reality to be explained, the worst feature of the case is that *deduction* cannot prove its own principles, as Aristotle long ago showed, in the most favourable case obtaining for them only a bare possibility, but not a definite probability. The principles may perhaps gain somewhat in *comprehensibility* by the process, but no *power of convincing*, and the attainment of a conviction of their correctness is left exclusively to *mystic reproduction*, as their discovery consisted in mystical production. It is the greatest misfortune for Philosophy, so far as it employs this method, that the assurance of the truth of its results is not *communicable* as in the case of inductive science; and even the comprehension of its content, as is well known, is no easy matter, because it is infinitely difficult to pour a mystical conception into an adequately scientific mould. Philosophers, however, only too frequently deceive both themselves and their readers with regard to the mystical origin of their principles, and try, in the absence of good proofs, to give them a scientific support by subtle sophisms, the worthlessness of which escapes notice through the firm belief of the truth of the result. Here is the explanation of the circumstance, that people (save in the rare exception of a certain mental affinity) feel an extreme repugnance to the study of the philosophers, when they turn to their proofs and

deductions, but, on the other hand, are attracted and fascinated in the highest degree by the imposing compactness of their systems, their grand views of the world, their flashes of genius illuminating the darkest recesses, their deep conceptions, their ingenious aperçus, their psychological acumen. It is the mode of proof that inspires the man of science with his instinctive aversion to Philosophy,—an aversion which in our own time, when in every department of life Realism is triumphant over Idealism, has risen to supreme contempt.

It follows further from the deductive method of the philosophers, that discussion can only arise on special points in so far as they follow from principles with respect to which there is no dispute. But now, inasmuch as the whole system is enounced as a consequence of first principles, even supposing all conclusions to be correctly drawn, it can only be accepted or rejected as a whole, according as one rejects or accepts the first principles; whilst in a philosophy of induction which has been built up from below, *i.e.*, on generally admitted and empirically established facts, assent may be granted up to a certain point, and then the observer may go his own road, having gained many hints for future use from a careful study of the solid sub-structure. It is accordingly evident why every deductive system stands more or less alone, like the spider in its web, because all differences are enclosed in the first principles, with regard to which there will never be agreement, if we are bound to make a commencement with them. On the other hand, in the different inductive philosophical systems (which, alas ! do not yet exist), a feeling of solidarity would arise through the possession of a common foundation, just as in inductive science in general, where every strictly scientific step, once taken, is always a step gained, and where even the smallest gift is gratefully accepted. Lastly, it is obvious from what has

been said, why the deductive philosophy has never yet succeeded in reaching the majority of the educated, but has had to be contented with a limited public, and why it has been just as little successful in bridging over the vast gulf which *separates* it *from the reality to be explained.*

Those philosophies, on the contrary, where the inductive method has been adopted, and all the natural sciences in the widest sense of the term, have undoubtedly obtained precious results of a secondary kind and gained ground for the future, but still are very far indeed from having reached ultimate principles and the true unity of science.

Thus a chasm yawns between the methods; induction cannot attain to first principles and to system, nor can pure speculation arrive at explanation of the actual or communicate its wisdom. It may be concluded from this that the whole truth cannot be comprehended from one side alone, but that the matter must be approached simultaneously from both sides, and a survey made from opposite stations in order to find out the salient points, where a bridge can be thrown across. For the case is not an entirely hopeless one. Thoughts crystallise both from above and from below, as the mass of melted sulphur coalesces when the most prominent needles interlace, but not before. We have arrived at a point in the history of science where the pioneers meet, like two miners who, in their subterranean galleries, hear each other's knocking through the party-walls. For inductive science has in recent times made such vast progress in all branches of inorganic and organic nature, and even in the region of mind, that attempts of the kind indicated find a very different ground on which to work than, *e.g.*, those of an Aristotle, Paracelsus, Bacon, and Leibniz. On the other hand, however, the period embracing the close of the last and beginning of the present century, brilliant beyond all

former periods, has enriched the speculative mind in so many ways, that both parties once more face each other as equals. But at the same time the world has become more aware of a direct antagonism of method which before was less apparent, and hence it has come to pass that each investigator is wont to declare himself for one of the two tendencies much more definitely than was formerly the case. The present time needs a spokesman who has comprehended both sides with equal love and devotion, who is capable, if not of mystical production, yet of reproduction, and at the same time has made a survey of exact science and appreciates the strictness of the exact inductive method. He should clearly recognise, too, the nature of the problem before him, viz., to combine the speculative (mystically gained) principles with the highest results hitherto attained of inductive science according to inductive method, in order to bridge over the gulf between the two, and to elevate what have hitherto been merely subjective convictions to the rank of objective truths. It was in reference to this great and seasonable problem that I chose the motto, "Speculative results according to inductive scientific method!" Not that I thought myself to possess a mind sufficiently comprehensive for the solution of this problem, or at all believed that I had offered in the present work a satisfactory solution,—that is far from me. If I merit any praise, it is for having distinctly declared a problem, already recognised and attacked in different ways, to be the philosophic problem of a time suffering conspicuously from speculative exhaustion, for resolving to contribute my mite towards its solution, and so giving to others a possibly needed stimulus; but above all, because I have taken up the matter on a side hitherto neglected, but rich in promise beyond all others.[1] At the same time

[1] The astonishingly favourable reception, which the previous editions of this work have met with, seems to me to be essentially due to a recognition of the seasonableness of my efforts.

my design imposes upon me the duty of submitting myself to the judgment of both tribunals, the scientific as well as the philosophical.[1] Gladly do I do this, however; for I hold all speculation to be baseless, which contradicts the clear results of empirical investigation, and conversely hold all conceptions and interpretations of empirical facts to be erroneous, which contradict the strict results of a purely logical speculation.

I may perhaps be allowed to say also a few words upon the mode of exposition. My first rule has been general intelligibility and brevity. The reader will accordingly find no citations except such as could be worked into the text; all polemic has been avoided as far as possible, unless it was indispensable for the elucidation of a conception. My trust is greater in the convincing power of what positive truth there may be contained in my work than in negative criticism, however incisive. Further, instead of dwelling upon the errors and weaknesses of great men, which receive

[1] The criticisms and replies, whether *philosophical* or *scientific*, which have come under my notice, have not succeeded in shaking my opinions on any material point, but have rather strengthened them in several instances. In the Addenda to the earlier editions I sought as much as possible to avoid polemics, and allowed myself for the first time in the Appendix to the seventh edition somewhat greater liberty in this respect. I have permitted myself more freedom in respect to controversy in some minor writings. A fuller treatment of strictly scientific questions will be found in "Truth and Error in Darwinism," and "Contributions to a Philosophy of Nature" (Section C. of "Gesammelte Studien und Aufsätze gemeinverständlichen Inhalts"), as well as in the Appendix to the present volume, "On the Physiology of the Nerve-Centres." My place in the historical development of philosophy is indicated in "Das philosophische Dreigestirn des 19. Jahrhunderts" (Section D. of the "Ges. Studien u. Aufsätze"), and the "Elucidations of the Metaphysic of the Unconscious." The following writings give a clue to my position in respect to the problems of the theory of knowledge and methodology :—"Kritische Grundlegung des transcendentalen Realismus," 2d ed.; "J. H. v. Kirchmann's erkenntnisstheoretischer Realismus" and "Ueber die dialektische Methode." On the religious questions of the present day I have expressed my opinions in the tractate "Die Selbstzersetzung des Christenthums und die Religion der Zukunft," 2d ed., and a few excursuses in the field of Æsthetics are to be found in "Aesthethische Studien" (Section B. of the "Gesammelte Studien und Aufsätze").

sentence in being forgotten in course of time, I have preferred to render prominent their grandest ideas, where they presagingly foreshadow in vague outline what only the future can establish in complete detail. Further, the opportunity for interesting side-remarks, for more thorough but prolix proofs, detailed deductions, &c., has often been left unused, so as to avoid a lengthened treatment, which would be serviceable to but a few readers. Accordingly, in the majority of instances, with the exception of those which deal with fundamentals, the chapters are almost aphoristic, because I believe that most readers will prefer a short exposition affording stimulus to self-reflection to an exhaustive treatment of the subject. In the handling of the topics the reader's convenience has also been considered as far as possible, in that each chapter forms a little treatise by itself on a limited subject (a few only making an exception to this which belong inseparably together, as, *e.g.*, Chap. C. vi. and vii.) The chapters of the first two sections *together* and *severally* prove the existence of the Unconscious; their concord and demonstrative force is a source of mutual *support*, and they *sustain* each other reciprocally like a pile of arms; thus the later support the earlier. I therefore beg the reader kindly to reserve his judgment, at least until he has finished Section A. Should, however, the proof of this or that chapter appear to be faulty, the inferences of the others are not necessarily thereby condemned, just as one or many of the weapons may be taken from a pyramid of piled arms without its collapsing. Lastly, I crave indulgence so far as the several physiological and zoological facts employed as examples are concerned, in respect to which a layman may easily make a slip, without, however, prejudicing the main argument.

(c) *Predecessors in respect of the Conception of the Unconscious.*

What a time elapsed before in the history of Philosophy the antithesis of Spirit and Nature, Thought and Being, Subject and Object, emerged into clear consciousness, an antithesis which now governs all our thinking! For the primitive man as natural existence felt his body and soul to be one, he instinctively anticipated this identity, and his understanding must have reached a high degree of consciousness, before he could so far free himself from this instinct as to perceive the full force of the contrast. Nowhere in all Greek philosophy do we find this opposition clearly expressed, still less its significance recognised, but least of all in the classical period. If this holds good of the opposition of the Real and the Ideal, ought we to be surprised that the contrast of the Unconscious and the Conscious should still less occur to the primitive understanding, and therefore should arise much later in the history of Philosophy; nay, that at this very day most educated people hold it to be absurd to speak of unconscious thinking? For the Unconscious is so much *terra incognita* to the natural consciousness, that it regards the identity of *having an idea* and *being conscious of a thing* as quite self-evident and indubitable. This *naïve* point of view was taken by Descartes (Prin. Phil., i. 9), and still more decidedly by Locke (Essay on the Human Understanding, book ii. chap. 1, sec. 9): "To ask at what time a man has any ideas is to ask when he begins to perceive, having Ideas and Perception being the same thing;" or sec. 19: "For it is altogether as intelligible to say that a body is extended without parts, as that anything thinks without being conscious of it. They who talk thus may, with as much reason, if it be necessary to their hypothesis, say that a man is always hungry, but that he does not always feel it; whereas hunger consists in that very sensation, as think-

ing consists in being conscious that one thinks." It is clear that Locke *postulates* these propositions in all simplicity. The assertion, repeatedly made, that Locke has *proved* the possibility of unconscious ideas is therefore quite *incorrect.* He only proves from a proposition taken for granted, that the *mind* can have no idea without the *man* being conscious thereof, because otherwise the consciousness of the man and that of the mind would constitute two different persons, and that consequently the Cartesians were wrong in asserting that the soul, as thinking being, must think incessantly. Locke is accordingly the first and only one to give full and scientific expression to this tacit supposition of the *naive* understanding. By this step, however, an opportunity was naturally afforded Locke's great opponent, Leibniz, of perceiving its one-sidedness and untruth, and of making the discovery of unconscious ideas, whereas all earlier philosophers silently inclined to the one or the other view, but in general failed to distinctly envisage the problem.

Leibniz was led to his discovery through the endeavour to save innate ideas and the ceaseless activity of the perceptive faculty. For when Locke had proved that the *soul* cannot consciously think if the *man* is not conscious thereof, and yet *should* be always thinking, there remained nothing for it but to assume an *unconscious* thinking. He therefore distinguishes *perception,* ideation, and *apperception,* conscious ideation or simply consciousness (Monadologie, sec. 14), and says: "Il ne s'en suit pas de ce qu'on ne s'apperçoit pas de la pensée, qu'elle cesse pour cela" (Nouveaux Essais sur l'Entendement Humain, book ii. chap. 1, sec. 10). What Leibniz contributes to the positive establishment of his new conception is certainly very scanty, but he deserves immense credit for instantly perceiving with the eye of genius the range of his discovery, for penetrating (sec. 15) into the dark inner laboratory of human feelings, passions, and actions, and for recognising habit and much else as effects

of an important principle only too briefly expounded. He declares unconscious ideas to be the bond "which unites every being with all the rest of the universe," and explains by their means the pre-established harmony of the monads, in that every monad as microcosm unconsciously represents the macrocosm and its position therein. I cheerfully confess that it was the study of Leibniz which first incited me to the present investigation.

With regard to the so-called innate ideas, he likewise finds a point of view which has obtained general acceptance (book i. chap. 3, sec. 20): "They are nothing but natural aptitudes, that is to say, active and passive dispositions;" (chap. 1, sec. 25): "Actual knowledge is certainly not innate, but only what one may call virtual knowledge, just as the figure outlined by the veins of the marble is in the marble before these are discovered in the process of working them." Leibniz meant to say what Schelling later (Works, div. i. vol. iii. pp. 528, 529) more precisely expressed in the words: "So far as the Ego produces everything out of itself, so far is all . . . knowledge *à priori*. But in so far as we are not conscious of this productivity, so far is there nothing in us *à priori*, but everything is *à posteriori*. . . . There are thus notions *à priori* without there being innate notions. Not conceptions, but our own nature and its whole mechanism is that which is innate to us. . . . In that we place the origin of the so-called notions *à priori* outside the sphere of consciousness, *where for us also the objective world takes its rise*, we assert with the same evidence, and with equal right, that our knowledge is in origin out-and-out empirical and entirely *à priori*."

But now comes the weak side of Leibniz's theory of unconscious ideas, already apparent in their usual name, "*petites perceptions*." Having in his discovery of the infinitesimal calculus, and in many parts of Natural Philosophy, in Mechanics (Rest and Motion), in the Law of Continuity, &c., introduced with the most brilliant success

the notion of the (so-called mathematical) infinitely little, Leibniz was tempted to conceive the *petites perceptions* as ideas of too low an intensity to affect consciousness. He thereby destroyed with one hand what he seemed to have built up with the other—the true notion of the Unconscious as a province opposed to Consciousness, and its significance for feeling and action. For if, as Leibniz himself maintains, natural disposition, instinct, the passions—in short, the mightiest influences in human life—take their rise in the sphere of the Unconscious, how are they to be shaped by ideas which are withdrawn from consciousness simply on account of their weakness? Would not the more *powerful* conscious ideas *prevail* at the decisive moment? This, however, is of minor interest to Leibniz, and for the main objects of his consideration, innate ideas and the constant activity of the soul, his assumption of the infinitely little consciousness certainly suffices. Accordingly, most of his examples of *petites perceptions* have reference to ideas of a low degree of consciousness, *e.g.*, sensuous perception during sleep. For all that, Leibniz retains the glory of having been the first to affirm the existence of ideas of which we are not conscious, and to recognise their vast importance.

Nearer to Leibniz than is commonly thought stands Hume, whose theoretical philosophy, it is true, is almost limited to a single point, Causality, but who within that limited sphere has looked round him with a clearer and bolder eye than even Kant. Hume does not dispute the fact of Causality, he only opposes the empiricists (Locke) with respect to its abstraction from experience, the *à priorists* (Cartesians) with respect to its apodictic certainty. On the other hand, he concedes to the empiricists the applicability of Causality to experience and practical affairs, and the *à priorists* through his indirect proof of the principle affords a support for the assertion, that our thinking and inferring according to causal relations is a manifestation *unconsciously to ourselves* of an *instinctive*

power far removed from our discursive thinking, which, like the astonishing instinct of animals, must be looked upon as an original gift of nature ("Inquiry Concerning Human Understanding"). The reality of an objectively real world, independent of the perception of the subject, is immediately inferred from sensuous perception by means of such a natural, blind, but powerful *instinct*. As, however, we directly know only our own mental representation, it is certainly directly indemonstrable, that it is the *effect* of an external object different from, but resembling it. In his acute criticism of the Berkeleian Idealism, Hume, however, shows himself so thoroughly penetrated by the consciousness, that every subjective idealism carried out to its last consequence can only end in a scepticism absolutely infertile and practically repudiated by its champions, that he is protected from the Kantian error of an exclusively subjective conception of causality; and at the conclusion of his inquiries he advocates the *hypothetical restitution* of the critically purified causal instinct as the only justifiable point of view. (I have taken a similar course in my work, "Das Ding an sich und seine Beschaffenheit," C. Duncker, 1871.)

That Kant borrowed the notion of unconscious ideation from Leibniz is easily to be detected from the passage quoted at the beginning of this treatise. That he also attributed great importance to the subject is proved by the following passage of sec. 5 of the "Anthropology:"—"Innumerable are the sensations and perceptions whereof we are not conscious, although we must undoubtedly conclude that we have them, obscure ideas as they may be called (to be found in animals as well as in man). The clear ideas, indeed, are but an infinitely small fraction of these same exposed to consciousness. That only a few spots on the great chart of our minds are illuminated may well fill us with amazement in contemplating this nature of ours." If Kant in this passage identifies the *unconscious* and the *obscure* ideas for the purposes of his

"Anthropology," the "Critique of the Pure Reason" shows that he recognised and indicated the distinction, but did not comprehend its full importance. The *clear* is opposed to the obscure, the *conscious* to the unconscious idea; but not every conscious idea is a clear idea, nor is every obscure idea unconscious. Only that conscious idea is clear in which the consciousness reaches to the *consciousness of the discrimination* of that very idea from others: when consciousness is not adequate to that, the conscious idea is obscure. *Not all* obscure ideas are therefore unconscious; "for a certain degree of consciousness, which, however, does not suffice for memory, is not wanting in *several* obscure ideas" (Kant's Werke ed. Rosenkranz, ii. p. 793, Obs.) If for the practical ends of anthropology the contrast of clear and obscure ideas seems to Kant to be sufficient, for the theory of knowledge in general it yields in importance to that of the conscious and unconscious idea. "Idea is the genus (*repraesentatio*). *Under it* falls the idea accompanied by consciousness (*perceptio*)" (ibid., ii. 258). Consciousness, whose presence distinguishes *perceptio* from the unperceived *repraesentatio*, is not so much itself idea, "but its *form* in general, so far as it can be called *knowledge*" (ii. 279). It is the absence of this *form* which distinguishes the unconscious from the conscious idea. According to Kant the pure concepts of the understanding (*categories*) seem to belong to the unconscious ideas, so far as they lie beyond cognition, which cognition only becomes possible through a *blind* function of the soul (ii. 77) spontaneously binding up the given manifold of the perceived ideal material into a synthesis (ii. 76). If we penetrate by the aid of consciousness into the nature of this synthesis, we certainly recognise therein, so far as it is generally presented, the pure concept of the understanding (ii. 77); but the part that the unconscious category as "germ or foundation" (ii. 66) plays in bringing about conscious knowledge (the "Schematism of the pure understanding")

remains an "art hidden in the depths of the soul," hardly ever to be laid bare (ii. 125). Unfortunately Kant did not attain the same degree of insight in reference to the *à priori* forms of intuition as in the case of the forms of thought. One example of the rare keenness of his perception, however, may be mentioned. Kant was the first who sought in the Unconscious for the essence of sexual love (Anthropology, sec. 5).

Kant's glances beyond the sphere of conscious human knowledge extend, however, still further than we have hitherto shown; but he himself touched this other province only in the way of suggestion, because his philosophic goal was always apodictic certainty, and he was obliged to confess that in this department our knowledge rests only on probability, *i.e.*, according to his terminology, is problematical (ii. 211). The above-mentioned classification of ideas is incomplete in so far as the second species, opposed to the conscious idea, is unnamed. This is, however, according to Kant's terminology, the "intellectual intuition," which does not appear in the classification. The conscious presentation (perception) further falls, according to Kant, into (subjective) feeling and (objective) knowledge, and the latter again into intuition and conception. Feeling and intuition are not intellectual, but sensuous; conception is not intuitive, but discursive; sensuous intuition is derived intuition, not original as the intellectual (ii. 720); discursive knowledge, again, effected by the mediation of the categories, is, it is true, intellectual, but not intuitive (ii. 211). Intellectual intuition[1] is accordingly left for the non-perceived idea. The perceived or conscious idea is different from its object; the non-perceived idea is one with it, in that it itself gives

[1] Spinoza also has, besides cognition through sense-perception and abstract conception, a third kind of cognition by way of intellectual intuition or intuitive knowledge (Ethics, part ii. prop. 40, obs. 2). This has the mind, so far as it is eternal, not the finite and perishable individual mind (part v. prop. 31), for its formal cause, and it alone furnishes really adequate ideas on the nature of God and of things.

it or produces it (ii. 741, 742). It is not the derived and dependent human understanding (conscious intellect) as such which possesses such an intellectual intuition, but only the primordial Being (ii. 720) or the divine understanding (ii. 741), for which the production of its "intelligible objects" is at the same time the creation of the world of noumena (viii. 234). Whether, and how far, the obscure ideas without any consciousness are to be explained by the penetration of the original intellectual intuition of the primordial Being into the derived human understanding, are points on which Kant never expressed himself: Schelling was the first energetically to pursue that line of inquiry. It is interesting, however, to see, how Heinrich Heine adopted the Kantian notion of intellectual intuition to explain the mysterious lightning-flashes of genius (comp. Heine's Works, vol. i. pp. 142, and 168, 169).

Although Kant had by no means intended to enounce a metaphysic proper, still he had pretty plainly foreshadowed the only metaphysic possible in a system of pure reason in the above-mentioned intellectual intuition of the Absolute which produces the intelligible world, so that his immediate continuator, Fichte, could only proceed further on the path indicated. According to the latter, "God's *existence*" is "merely *knowledge itself*" (Fichte's Werke, ii. pp. 129, 130), *substantial* knowledge only however, to which, as infinite, *consciousness* can *never* be ascribed. Without doubt it is *necessary* for knowledge to *become* self-consciousness, but with equal necessity is it thereby *riven* into the plural consciousness of manifold individuals and persons (vii. 130, 132). As substantial knowledge (*i.e.*, as mere content of knowledge without the form of consciousness), God is *the infinite Reason* in which the finite is contained; he is likewise the infinite Will which supports and retains all individual wills in their spheres, and the medium of their communication (ii. 301, 302). If it be necessary to deny consciousness to

the Unity of the infinite Reason and the infinite Will, in spite of its absolute infinite knowledge, or rather precisely on that account, still more must personality, the very conception of which implies limitation, be refused (ii. 334, 335). It is clear from this that all the elements of the Unconscious are to be found in Fichte, but they appear only casually, as vague hints scattered here and there, and these promising thought-blossoms were soon buried under later growths without having borne any fruit.

The conception of the Unconscious was much more closely related to the *Faith Philosophy* (Hamann, Herder, and Jacobi), which properly rests upon it; but that philosophy was so obscure and incapable of rationally comprehending its own basis, that it never got so far as to discover its proper cue.

On the other hand, we find in Schelling the conception of the Unconscious in its full purity, clearness, and depth; it is worth while therefore to glance aside for a moment to observe the way in which he arrived at it. The following passage throws most light on the subject (Schelling's Werke, div. i. vol. x. pp. 92, 93): "The meaning of this (the Fichtean) subjective Idealism could not be that the Ego *freely* and *voluntarily* posited the world of things, for far otherwise would the Ego will if upon it depended external existence. . . . But all this gave Fichte no concern. . . . It falling now to my lot to take up the Problem of Philosophy at the point where Fichte had left it, I had above all to see how that undeniable and inevitable necessity" (with which its representations of the external world confront the Ego), "which Fichte only seeks as it were to scold away with words, could be united with the Fichtean notions, with the asserted absolute substance of the Ego. It soon became clear that the external world is certainly only here *for* me, so far as I myself am here and conscious to myself (that is self-evident), but

that also conversely, in the act of self-presentation, I am *conscious* that, along with the revealed *I* am, I find also the world already—there—existing, that thus in no case does the *already conscious* Ego produce the world. Nothing, however, prevented the receding with this *now* self-conscious Ego to a moment *when it was not yet conscious of itself*, and the assuming a region beyond the present consciousness, and an activity which no longer *itself*, but *only* through its *result*, comes into consciousness." (Cf. also Schelling's Werke, Abth. i. Bd. 3, S. 348, 349.) The circumstance, that Schelling had to derive the notion of the Unconscious from the hypothesis of the Fichtean Idealism, is probably the reason why his many fine observations concerning this conception exerted so little influence on the culture of his time, since the latter needed an empirical derivation in order to perceive its necessity. Besides the passage previously quoted when speaking of Leibniz other citations will be made from Schelling in the course of our inquiries. At this point I must content myself with transcribing the following suggestive remark (Werke, i. 3, p. 624):—"In all, even the commonest and most everyday production, there co-operates with the conscious an unconscious activity." The working out of this principle in the different departments of empirical psychology would have supplied an *à posteriori* foundation for the notion of the Unconscious. Schelling, however (except in the case of æsthetic production), not only failed to do this, but he even asserts elsewhere (Werke, i. 3, p. 349): "The æsthetic *alone* is such an activity" (one at the same time conscious and unconscious).

Nevertheless, with what purity and depth Schelling in his original thinking had seized the notion of the Unconscious is proved by the following important passage (i. 3, p. 600): "*This eternally Unconscious*, which, as were it the *eternal sun in the kingdom of spirits*, is hidden by its own untroubled light, and although itself never becoming

Object, impresses its identity on all free actions, is withal *the same* for all intelligents, the invisible root of which all intelligencies are only the powers, and the eternal mediator between the self-determining subjective in us and the objective or intuited, at once the ground of conformity to law in freedom, and of freedom in conformity to law." He denotes by this mode of expression what Fichte named the substantial Knowledge without consciousness, or the impersonal God as Unity of infinite Reason and infinite Will, a unity embracing the many individual wills with their finite reason. Schelling too went so far as in 1801 to fix upon the *absolute Reason* as the first and highest principle of his Philosophy of Identity, and therewith to give a concrete realisation to his "eternally Unconscious," to which in the year 1809 he added the *Will* as a principle of even higher importance (i. 7, 350).

As in the course of Schelling's historical development the Idealism of Fichte retreated into the background, so did the conception of the Unconscious experience the same fate. Whilst in the Transcendental Idealism it plays a leading part, in the writings which appeared soon after it is hardly even mentioned, and later still it disappears almost entirely. The mystical Philosophy of Nature also of Schelling's school, which (especially Schubert) is so much occupied with the sphere of the Unconscious, has, so far as I know, nowhere concerned itself with a development and examination of this conception. Far better did the divining poet-mind of Jean Paul Friedrich *Richter* know how to appreciate Schelling's Unconscious, and we quote the following passages from his last, unfinished work "Selina:" "Our measurements of the rich territory of the Me are far too small or narrow when we omit the immense realm of the *Unconscious*, this real interior Africa in every sense. In every second only a few illuminated mountain-tops of the whole wide globe of memory are turned towards the mind, and all

the rest of the world remains in shadow." "Nothing is left for the receptacle and throne of the vital energies but the great kingdom of the *Unconscious* in the soul itself." "In the case of certain men we immediately survey the whole cultivated soul, even to the borderland marked by emptiness and sterility; but the kingdom of the *Unconscious*, at once a kingdom of the unfathomable and the immeasurable, which possesses and rules every human mind, makes the barren rich and pushes back their boundaries into the invisible." "Is it not a consolatory thought, this concealed wealth in our soul? May we not hope that we perhaps *unconsciously* love God more heartily than we know, and that a calm instinct for the second world works in us, while we yet consciously give ourselves up so entirely to the external one?" "We see indeed daily how the conscious becomes the *unconscious*, how the soul without consciousness guides the fingers according to the laws of harmony, whilst it incites consciousness to new relations and actions. When we behold the complicated relations of muscle and nerve, we are astonished at contractions and pressures of the most delicate kind without conscious volition."

In *Hegel*, just as in Schelling's later works, the notion of the Unconscious does not clearly appear, except in the introduction to the lectures on the "Philosophy of History," where he reproduces the ideas of Schelling on this subject, quoted below in Chap. B. x. Nevertheless Hegel's absolute IDEA, in its pure selfhood, before its unfolding into Nature, thus also before its return to itself as Spirit, in that condition in which it is the unveiled Truth, the Godhead, as it were, in its eternal essence before the creation of the world and a finite mind, thoroughly agrees with Schelling's "eternally Unconscious," if it is also only one aspect of the same, viz., the logical or the ideational, coincident with Fichte's "substantial knowledge," and his infinite Reason devoid of consciousness. With Hegel, too, Thought only attains to consciousness when, through the

mean of its externalisation into Nature, it passes from mere being-in-self to being-for-self, and having become an object to itself, has come to itself as *spirit.* The Hegelian God as starting-point is at first being *per se* and unconscious, only God as result is being "for-self" and conscious, is Spirit. That the attaining-to-being-for-self, the becoming-an-object to self is really a coming-to-consciousness, is clearly expressed by Hegel in vol. xiii. *pp.* 33 and 46 of his collected works. The theory of the Unconscious is the necessary, if also hitherto for the most part only tacit *presupposition* of every objective or absolute *Idealism,* which is not unambiguously Theism. Every metaphysic which looks upon the IDEA as the prius of Nature (from which again the subjective mind arises) *must* think the IDEA as *unconscious,* so long as it is still plastic and has not yet emerged from its being before and in Nature into intuitive consciousness in the subjective mind,—unless the shaping IDEA take the form of the conscious thought of a self-conscious God. As highest form of absolute Idealism, *Hegelianism* most certainly has to yield to this necessity, since its IDEA is something very different from the conscious thought of an originally self-conscious God; rather "God" is only a convenient name for the (self-unfolding) IDEA.

It may be said, therefore, that the theme of the present book is mainly the elevation of Hegel's unconscious Philosophy of the Unconscious into a conscious one (cf. my essay, "Ueber die nothwendige Umbildung der Hegel'schen Philosophie aus ihrem Grundprincip heraus," in the "Gesammelte philosoph. Abhandlungen," No. II., Berlin, C. Duncker). But also all those who, influenced more or less by Plato and Hegel, generally assume only IDEAS as the moulding principles of Nature and History, and a guiding objective Reason revealing itself in the world-process, without being willing to confess to a self-conscious God-creator, all these are already unconscious adherents of the Philosophy of the Unconscious.

The task of an author of the same way of thinking, when addressing sympathetic readers, can have no other object than to show what consequences flow from the principles they have adopted, and to confirm them in their opinions by the most cogent reasoning.

Schopenhauer acknowledges as metaphysical principle only the Will, whilst Ideation is, according to him, a cerebral product in a materialistic sense—an assertion not made clearer by the explanation that the matter of the brain is merely the visibility of a (blind, that is unthinking) Will. The Will, the sole *metaphysical* principle of Schopenhauer, is therefore, of course, an *unconscious* Will. Thought, on the other hand, which with him is only the phenomenon of a metaphysical principle, and therefore, *as* thought, not itself metaphysical, can, even where it is unconscious, never be comparable with the unconscious Idea of Schelling, which I myself *place by the side* of unconscious Will, as *metaphysical* principle *of equal value.* But also, apart from this distinction of the metaphysical and phenomenal, the " unconscious rumination," of which Schopenhauer speaks in two passages, which are in perfect accord (W. a. W. u. V. 3, Aufl. ii. S. 148, and Parerga-2 Aufl. S. 59), and which he assigns to the interior of the brain, refers indeed only to the obscure and confused ideas of Leibniz and Kant—ideas which are too weakly illuminated by the light of consciousness to stand out clearly, which are thus merely below the threshold of distinct consciousness, and are differentiated from the clearly conscious ideas *only in degree* (not essentially). Schopenhauer thus gets no nearer the true conception of the absolutely unconscious idea in these two aperçus (which for the rest have had no influence on his philosophy) than in another place, where he speaks of the separate consciousness of subordinate nerve-centres in the organism (W. a. W. u. V., ii. 291). An opening for the true, absolutely unconscious idea is certainly afforded by the system of Schopenhauer, but only at the point

where it becomes faithless to itself and self-contradictory, when the *Idea*, which is originally only another kind of intuition of the cerebral intellect, becomes a metaphysical entity, preceding and conditioning real individuation (cf. the essay, "Ueber die nothwendige Umbildung der Schopenhauer'schen Philosophie aus ihrem Grundprincip heraus," in my "Gesammelte philosophische Abhandlungen," No. III., Berlin, C. Duncker, 1872). Schopenhauer himself, however, shows no apprehension of this, so that, for example, it does not occur to him to bring forward the IDEA to explain the adaptation of means to ends in Nature, which rather in genuine idealistic fashion he regards as a merely subjective appearance, arising through the disruption of the One Reality into the co-existence and succession of Space and Time, whereby essential unity is revealed in the form of a teleological relation essentially non-existent, so that it would be to turn things upside down to seek *Reason* in the purposive activity of Nature. But in this he altogether fails to perceive that the unconscious Will of Nature *eo ipso* presupposes an unconscious Idea as goal, content, or object of itself, without which it would be empty, indefinite, and objectless. Accordingly, in the acute and instructive observations on instinct, sexual love, life of the species, &c., the unconscious Will comports itself precisely *as if* it were bound up with unconscious representation, without Schopenhauer knowing or admitting it. To be sure Schopenhauer, who as all philosophers and human nature generally in mature life imperceptibly gravitated more and more from Idealism to Realism, secretly felt a certain compulsion to take the step which Schelling long ago had taken beyond Fichte, the step from subjective to objective Idealism; but he himself could not summon up sufficient courage to disavow decidedly the standpoint of his youth (in particular, the first book of his chief work), and left this task to his disciples (Frauenstädt, Bahnsen). Accordingly we only find

a few hints, which, carried further, would have changed the whole character of his system, *e.g.*, the passage "Parerga," 2d edit. ii. 291 (to which Freiherr du Prel has referred in Cotba's "Deutscher Vierteljahrsschrift," No. 129), where he suggests the possibility, that after death a higher form of the incognitive consciousness might be added to the "intrinsically incognitive Will," devoid of the contrast of subject and object. But now every consciousness is *eo ipso* consciousness of an object with more or less clearly conscious reference to the correlative notion of subject, therefore a *consciousness* in which this opposition ceases is inconceivable; but an *unconscious cognition* without this object were conceivable, and Schopenhauer very nearly approached it in his description of the intuitive idea (W. a. W. u. V., i. § 34; cf. also my above-named essay). It must therefore be granted that Schopenhauer divined the truth, but gave it a faulty expression, and thereby was prevented from inserting this conception in his system in its only possible place. His odious prejudice against Schelling alone hindered him from finding in that writer the very thing he wanted, and that which in the passage alluded to he vainly struggles to obtain.

Only after these citations from European philosophers do I venture to refer to the Oriental philosophy, particularly that of the Vedas. As it is characteristic of the Oriental mind to be less systematic in its thinking but quicker in divining the occult, and to be more open to the slight whispers of genius, there are in the philosophical systems of the Hindoos and the Chinese yet unlifted treasures, in which we are often surprised to find anticipated the results of many thousand years of Western development. In the philosophy of the Vedas the Absolute is called Brahma, and has the three attributes Sat (being, substantiality), C'it (absolute unconscious knowledge), and Amanda (intellectual rapture). As absolute Knowingness, Brahma is called C'aitanja (Scho-

penhauer's eternal Eye of the world, absolute subject of knowledge, at the same time intelligible Ego of all p r- cipient individuals, Kūtastà-Gīva Saksin). The identity of the real and the ideal is most emphatically asserted; for if the ideal were not the real, it would be unreal, and if the real were not the ideal, it would be degraded to dead matter without sustaining force (Graul, Tamulische Bibliothek, vol. i. p. 78, No. 141). "*There is no distinction of knower, knowledge, and knowable in the highest mind*, (rather) this (Brahma) is illuminated by itself in virtue of its own essence, which is spirit and bliss" (ibid., p. 188, No. 40). "*Teacher.*—That purely spiritual C'aitanja perceives all bodies. Since, however, he is not himself body, he is also perceived in nothing. *Pupil.*—If he, although knowledge, *is yet cognised by nothing*, how can he *be knowledge?* *Teacher.*—The syrup-juice also does not bring itself into experience, yet in virtue of the senses different from that juice which perceive it, we say that it is of a sweet nature. So one cannot doubt that knowledge belongs to the self which perceives all things (as its substance). *Pupil.*—Is then Brahma a somewhat that is perceived or that is not perceived? *Teacher.*—Neither. That which lies beyond (above these two categories) (substantial knowledge), that is Brahma. *Pupil.*—How then can we perceive it? *Teacher.*—That is just as if somebody should say: Have I speech or not? *Although thy essence be knowledge*, dost thou yet ask: How is knowledge? Art thou not ashamed?" (ibid., p. 148, No. 2). Absolute knowledge is, according to this, neither conscious of itself (because then without distinction of subject and object), nor immediately conscious to another, because it lies beyond the sphere of the directly discernible. Still it is existentially cognisable by us, because in all knowledge it is that which knows, in all perception that which perceives, and is even intrinsically cognoscible, if only negatively (according to the foregoing examination), as

un-conscious and un-limited knowledge. The Unconscious has, in fact, been as clearly and exactly characterised in this old Indian book of the Vedanta philosophy (Panćadaśa-prakarana) as by any of the latest European thinkers.

Returning now to the latter, we may cite Herbart, who understands by "non-conscious ideas" such "as are *in consciousness* without our being aware of them" (Werke, v. p. 342), *i.e.*, without our "observing them to be ours and referring them to the Ego," or, in other words, without connecting them with *self-consciousness*. There is no danger of this conception being confounded with the true Unconscious; but there is another notion of Herbart's which must be noticed on account of the application of it by Fechner, viz., that "of ideas below the threshold of consciousness," which only stand for an *endeavour* after representation more or less removed from realisation, but themselves are "by no means actual representation," rather signify for consciousness less than nothing, "an impossible quantity" (Herbart, Works, v. pp. 339–342). Herbart arrives at this rather puzzling conception through his desire to retain, in the spirit of Leibniz, a gradual continuity in the passage from actual ideas to the slumbering ideas of memory, and conversely, as well as the possibility of a reciprocal action of these slumbering ideas, without condescending to a materialistic mode of explanation of these processes, in the sense of seeing in them only material cerebral processes of a strength insufficient for excitation of consciousness.

But now, at the present stage of science, it is not difficult to see that the so-called slumbering ideas of memory are not ideas *in actu*, in activity, but merely *dispositions* of the brain facilitating the revival of ideas. As a string, when caused to sound by aerial vibrations, always yields the same note, the note A or C, for instance, if it be attuned to A or C; so does one or another idea arise more easily in the brain, according as the distribution

and tension of the cerebral molecules induces a more ready response with one or another kind of vibrations on an appropriate stimulus. And just as the string does not respond merely to homologous vibrations, but also to those which only slightly differ from or are simply related to its own; so the vibrations of the predisposed molecules of a cerebral cell are not aroused merely by *one* kind of vibratory impulse, but also by stimuli slightly disproportional or harmonically related to the predisposition (a connection discernible in the laws of association of ideas). What tuning is to the string, is the permanent change, which a vivid idea leaves behind it in distribution and tension of the molecules, to the brain. Although these cerebral predispositions are of the highest importance, since the quality of the feeling with which the mind reacts depends on the form of the brain-waves, (on the one hand all *memory* depending on them, and on the other the *character* of the individual being essentially conditioned by the sum of the various inherited predispositions—cf. Chap. C. x.), still such an arrangement of passive material molecules, favouring the genesis of certain ideas, cannot be termed *Ideation*, albeit it may, according to circumstances, co-operate as condition in the production of an idea, and, indeed, of a conscious idea. But now, as the endless continuance of vibrations once excited in the brain is out of the question, (for the powerful resistances there encountered must put an end to every movement in a finite, and indeed tolerably brief time), Herbart's unconscious condition of the idea could only obtain within the limits, which are fixed on the one hand by the cessation of movement, and on the other by the cessation of conscious representation with unarrested movement of the cerebral vibrations, supposing the two limits not to coincide. The question then is: (1.) Do *all* degrees of intensity of cerebral vibrations give rise to ideation, or does ideation only commence when a certain degree of intensity is reached? and (2.) Is a *conscious* mental state

excited by cerebral vibrations of any intensity, or only by those of a certain strength?

Fechner has approached these questions in his celebrated work "Psychophysik." His train of thought is as follows: It is not every sensuous stimulus that causes sensation, but only a stimulus of a certain amount, which is called the *threshold of stimulation*; *e.g.*, a sounding bell is heard only at a certain distance. If several homogeneous stimuli, imperceptible when taken singly, are added together, there arises conscious sensation, as in the case of several distant bells sounding simultaneously which would not be separately heard, or the rustling of the leaves in the forest. It might be suggested that the stimulus below the threshold produces no sensation, for the simple reason that it is not strong enough to overcome the resistance offered in the sense-organ and nerves as far as the central organ, but that the mind reacts with the appropriate sensation on the smallest stimulus when the latter has reached the centre itself. This assumption alone, however, is not sufficient, since it does not fit the case of *differential* sensation. For homogeneous stimuli, when varying in intensity, arouse different sensations; but here, too, the variations must exceed a certain degree (the threshold of differential stimulation), if the sensations are to be perceived as different. Here clearly the resistances of the nerve-fibres cannot be made responsible for the phenomenon, since *each* of the sensations is large enough to overcome them. On the other hand, different principles cannot be set up for the threshold of simple stimulation and the threshold of differential stimulation, since the first is *reducible* to the second case, when in the latter one stimulus = 0. Consequently there only remains the assumption that the vibrations *at the centre* must exceed a certain degree before feeling ensues. What here holds good for sensation holds of course for every other mental state, and thus the second question is decided. It remains to ascertain whether the stimuli below the

threshold cause the mind to react *at all*, the result being unconscious sensation or idea, or whether the mind's reaction only begins at the threshold.

Let us hear Fechner further. The so-called Law of Weber runs, "Constant differences in the intensities of homogeneous sensations correspond to constant quotients of their respective stimuli;" and the highly ingenious formula hence derived by Fechner is $\gamma = k \log \frac{\beta}{b}$, where γ is the sensation following on the stimulus β, b the threshold of stimulation, *i.e.*, the value of the stimulus, which being exceeded γ exceeds the value 0, and k is a constant, which contains the relation of the measuring units of β and γ. (J. J. Müller gives a very interesting *teleological* deduction of this formula in the "Proceedings of the Royal Academy of Sciences of Saxony," 12th December 1870, where he shows that *only by assuming this* relation between stimulus and sensation is "the difference of sensation conditioned by diversity of stimuli independent of the excitability, and the difference of sensation conditioned by diversity of excitability independent of the stimulus," two conditions on which alone consciousness is in a position to keep asunder, and thereby to recognise, the effects due to the stimuli and the excitability respectively.) If now β becomes smaller than b, *i.e.*, the intensity less than the threshold-value of the stimulus, γ becomes negative, and sinks as much below 0, as β sinks below b (with $\beta = 0$ γ is $= -\infty$).

These negative γ's now Fechner calls "*unconscious* sensations," with the full consciousness, however, of having only employed a license of speech, to signify that the sensation γ is the more removed from reality the further γ sinks below 0, *i.e.*, that *an ever greater increment of stimulation* is required in order first to restore the zero value of γ, and then to recall the latter to the limit of reality. The negative sign before γ accordingly signifies here (as elsewhere often the imaginary) the insolubility

of the problem, from the given quantity of a stimulus to calculate a sensation.

The real meaning of the negative sign, Fechner very properly says, can only be disclosed by the comparison of the rational calculation with the explained facts. Accordingly he dismisses the common illustration of heat and cold as not to the point, and discountenances the algebraic summation of positive and negative γ's, as being no less inadmissible than operating with positive and negative pieces of surface in calculating areas by means of rectangular co-ordinates.

" Mathematically the opposition of the signs can just as well be referred to the contrast of reality and non-reality, as of increment and decrement or directions. In the system of polar co-ordinates it signifies the opposition of reality and non-reality of a line, but in such a way that greater negative values mean a *greater distance from reality* than smaller ones. There cannot be the least objection to transfer to sensation as function of a stimulus that which is valid for the radius vector as function of an angle" (Psychophysik, ii. p. 40). What holds good here for the algebraic expression of the function, holds, of course, also for its geometrical illustration by a curve, where again the visible connection of the positive and negative part might warp the judgment. It is clear that it is difficult to find a significant expression for the negative γ's which would not give rise to misunderstanding. Perhaps the best course would be to say, without more ado, " unreal sensation." However, Fechner is not to be reproached for the arbitrary use of the phrase " unconscious sensation," since he is not aware of, or at any rate does not recognise, our positive signification of the Unconscious. What is worse is that Fechner was afterwards so inconsequent as to allow himself to be deceived by the continuity of the geometrical curves below the threshold, and to speak of a real connection of the consciousnesses of different individuals below the threshold.

I have entered into this matter at such length, because I desired to protect myself against any confusion of my view of the Unconscious with Fechner's conception of unconscious sensation, and to pay at the same time my tribute of respect to his excellent work. I also wished to avail myself of the opportunity of making the reader acquainted with the conception of the Threshold, which is of importance in very dissimilar departments of science, and which we, too, cannot dispense with in our inquiries. That for the rest the stimulation of the brain must be of a certain intensity, in order to compel the mind to react at all, is teleologically quite comprehensible; for what would become of us poor wretches, if we were obliged continually to react on the infinite quantity of infinitely small stimuli, which incessantly play around us? But if the mind once reacts on a cerebral stimulus, consciousness is also *eo epso* given, as will be shown in Chap. C. iii. In that case these reactions can no longer remain unconscious. If hereupon any one should have recourse to the theory of the infinitely little consciousness, he would find that theory refuted by experiments, showing that conscious sensation decreases continuously down to the zero point, to which the threshold of stimulation corresponds, thus, in fact, successively possessing the infinitely small values *above the threshold*, where an infinitely little consciousness is actually found, but at the threshold itself becoming 0, *i.e.*, *absolutely ceasing*. I refer for confirmation to Fechner's work.

The conception of the Unconscious has not as yet been much introduced into *Natural Science*. An honourable exception to the indifference of scientific men is afforded by the well-known physiologist Carus, whose works "Psyche" and "Physis" are substantially an investigation of the Unconscious in its relations to corporeal and mental life. How far he has succeeded in his attempt, and how much I have borrowed from him in my own work, I leave to the judgment of the reader. I only

add, that the idea of the Unconscious is purely presented by this writer, free from every infinitely little consciousness. Besides the works of Carus, the notion of the Unconscious has obtained recognition in a few special disquisitions, a recognition, however, seldom extending beyond the sphere of the particular inquiry. Thus, *e.g.*, Perty, in his book "Ueber das Seelenleben der Thiere" (Leipzig and Heidelberg, 1865), finds himself drawn on to a derivation of instinct from unconscious movements, and likewise Wundt, in his "Beiträge zur Theorie der Sinneswahrnehmung" (Leipzig and Heidelberg, 1862; also in Henle's and Pfeuffer's "Zeitschr. f. ration. Medicin," 1858 and 1859), admits the necessity of referring the origin of sensuous perception and of consciousness in general to unconscious logical processes, "since the processes of perception are of an unconscious nature, and only their *results* are wont to appear in consciousness" (ibid., p. 436).

"The suggestion of the *logical* character of the processes of perception," he says, "is a hypothesis of no lower order than any other assumption which we make in reference to the ground of natural phenomena; it possesses the essential requirement of every well-grounded theory, that it be at once the *simplest* and *most appropriate* expression under which the facts of observation can be subsumed" (p. 437). "If the first act of apprehension, which yet belongs to the sphere of the unconscious life, is already a process of inference, the law of logical development is thereby shown to hold even for this unconscious life; it is proved that there is not merely a conscious, but also an unconscious *thinking*. We believe we have hereby completely proved that the assumption of unconscious logical processes is not merely competent to *explain* the results of the processes of perception, but that it in fact also *correctly declares* the *real nature of these processes*, although the processes themselves are not accessible to immediate observation" (p. 438). Wundt is well aware that the expression "unconscious inference"

is an improper one; "only when *translated* into *conscious* life does the psychical process of perception take the form of inference" (p. 169). The unconsciously logical processes are carried on "with a *certainty* and *regularity*" which would be impossible in conscious inference, where there exists the possibility of error (p. 169). "Our mind is so happily designed that it prepares for us the most important foundations of cognition, whilst we have not the slightest apprehension of the *modus operandi*. This unconscious soul, like a benevolent stranger, works and makes provision for our benefit, pouring only the *mature fruits* into our laps" (p. 375).

Helmholtz adopts this view in essentials, although, more cautious than Wundt, he occupies himself solely with the external aspect of the matter. At all events, he admits this much: "We must diverge somewhat from the beaten track of psychological analysis, in order to satisfy ourselves, that we have here to do with the same sort of mental activity that is operative in inferences commonly so called" (Popular Scientific Lectures, ii. p. 92). He finds the difference to consist only in the external circumstance, that conscious conclusions are wrought out by means of *words* (which does not meet the case of animals and the deaf and dumb), whilst the unconscious inferences or inductions have only to do with *sensations*, images of memory, and intuitions (where it is not obvious why the latter should "never" be "expressible in the usual form of a logically analysed inference"). Helmholtz deserves especial praise for expressly pointing to the fact that conscious inferences, after the requisite material of representation has been fully supplied and elaborated, thrust themselves upon us precisely like unconscious inferences, "without any exertion on our part" (*i.e.*, on the part of our own consciousness), with all the energy of an external natural force (p. 95). Independently of the aforementioned, Zöllner also found himself driven to the assumption of unconscious inferences for an explanation of those

pseudoscopic phenomena which defy a merely physiological explanation. (Cf. Poggendorf's Annalen, 1860, vol. cx. p. 500 ff., and his recent work, "On the Nature of Comets; Contributions to the History and Theory of Knowledge," 2d ed., Leipzig, 1872.) Further, we are vividly reminded of Wundt's unconscious soul, which works for us like another being, when *Bastian* begins his "Contributions to Comparative Psychology" (Berlin, 1868) with the words (p. 1), "That it is *not we* who think, but that *it* thinks *in us*, is clear to him who is wont to pay attention to the internal processes." This "it" lies, however, as appears from pp. 120, 121, in particular, in the Unconscious. However, this investigator does not attempt to do more than throw out some rather vague suggestions.

In the current treatment of History, likewise, there are indications that the achievements of Schelling and Hegel (of which we shall speak in Chap. B. x.) have not yet been quite forgotten at the present day. Thus Freitag says, in the preface to the first volume of his "Bilder aus der deutschen Vergangenheit," 5th ed., vol. i. pp. 23, 24: "All great creations of popular force,—ancestral religion, custom, law, polity,—are to us no longer the outcome of individual effort; they are organic products of a higher life, which in every age only attains manifestation through the medium of the individual, and in all ages gathers up into itself the spiritual wealth of individuals into a mighty whole. . . . Thus one may speak, without intending anything mystical, of a *national soul*. . . . But *no longer conscious*, not so purposive (?) and rational as the volition of the individual man, is this life of the people. All that is free and rational in history is the achievement of individuals; the national energy works untiringly with the dark compulsion of a *primitive power*, and its spiritual productivity sometimes corresponds in a surprising manner to the *formative processes* of the *silently creative forces of nature*, which urge stem, leaves, and blossom out of the seed-grain of the plant." It is the same thought

carried further, that underlies the works of Lazarus on "Völkerpsychologie" (cf. my essay, "Ueber das Wesen des Gesammtgeistes," in the "Gesammelte philosophische Abhandlungen," No. v.)

In *Æsthetics*, Carrière in particular has laid stress on the importance of unconscious mental activity, and, supporting himself on Schelling, shows the interposition of conscious and unconscious mental activity to be indispensable for every artistic achievement. An interesting contribution to the Unconscious in Æsthetics is made by Rötscher in an essay on the *Demonic* (in his "Dramaturgische und ästhetische Abhandlungen"). Of the various ways in which the conception of the Unconscious has been turned to account since the appearance of the first edition of the present work, no notice can, of course, be taken here.

II.

HOW DO WE COME TO ASSUME AN AIM IN NATURE?

One of the most important and familiar manifestations of the Unconscious is Instinct, and the conception of Instinct rests on that of Purpose. An examination of the latter is therefore indispensable to our inquiry, and as it does not well fit into Section A., I have relegated it to the Introduction. It is possible that the ensuing treatment will incur the reproach of aridity; and any one with an aversion for discussions involving calculations of probability may, if already convinced of the validity of the assumption of an Aim in Nature, pass over the present chapter. But I cannot refrain from adding that the way in which this important problem is here resolved, at least on its *formal* side, is, so far as I know, both novel and also the only possible one.

The notion of Design has played a highly important part in the speculations of many great thinkers, and has formed the foundation of a considerable portion of their systems; as in the case of Aristotle and Leibniz. Kant was, of course, obliged to deny its reality outside conscious thought, as he did not admit the reality of time (cf. Trendelenburg, "Logische Untersuchungen," chap. viii. 5). Modern Materialism likewise denies its reality, because it refuses to admit the existence of mind apart from an animal brain. In our modern physical science the notion of Design, chiefly through the influence of Bacon, has rightly fallen into discredit, because it had so often served as the convenient resource of indolent reasoners to avoid the arduous search after efficient causes, and because in

the part of natural science concerned with matter alone, Design as a spiritual cause must necessarily be excluded. Spinoza was completely blinded to the fact of Purpose in Nature, because he believed final causality to be in contradiction with logical necessity, whereas it is in truth identical with it (Chap. C. xv. 3). Darwinism denies adaptation in Nature, not as fact, it is true, but as principle, and thinks itself able to comprehend the fact as *result* of mindless causality; as if Causality itself were anything more than a logical necessity, discernible by us only as fact (not on the side of the internal principle), and as if the adaptation, actually manifested as result at the end of a series of events, must not have been from the very first the prius of these adjustments as plan or principle! But if, on the one hand, so great and honest a spirit as Spinoza could look in Nature's face and deny Design, if, on the other hand, Purpose seems to others to play a part so important, and even the freethinking Voltaire does not venture to explain away the evidence of an Aim in Nature, however inconvenient and incompatible with the rest of his opinions its admission might be, there must indeed be something very peculiar about the idea.

The notion of a purposed End is derived in the first instance from the experience of our own conscious mental activity. My *end* is a future event imagined and willed by me, the realisation of which I am not in a position to bring about directly, but only through a chain of causation (means). If I do not *imagine* the future occurrence, it does not exist for me; if I do not will it, I do not purpose it; it is indifferent or repugnant to me. If I can *directly* realise it, the causal link, the means, falls away, and along with it disappears also the notion of a designed end (which is only the term of a relation the other member of which is the concept, means), for action then follows immediately upon volition. When I see that I am not able to realise my will directly, and recognise the means as efficient cause of the end, the

willing of the end becomes to me a motive, *i.e.*, efficient cause for the willing of the means; this in its turn becomes efficient cause for the realisation of the means through my act, and the realised means becomes efficient cause of the realisation of the end. Thus we have a triple causality with the four terms: Willing of the end, willing of the means, realising of the means, realising of the end. Only in rare cases is all this confined to the purely subjective mental sphere, *e.g.*, in the composition of a poem, the elaboration in the mind of any artistic conception, or other mental effort. More commonly we find three of the four different modes of causality immediately presented, namely, causality between mental and mental event (willing of the end, willing of the means), mental and material event (willing and realisation of the means), and between material and material event (means and end). The fourth kind of causality too, that between material and mental event, also often occurs; it lies then, however, before the beginning of our reflection in the motivation of the willing of the end through impressions of sense. It is, therefore, evident that the union of willed and realised end, or final causation, is by no means something existing by the side of or even despite causality, but that it is only a particular combination of different kinds of causality, such that the first and last terms are identical, only the one ideal and the other real, the one presented in the willed idea, the other in reality. Far from destroying the exceptionless character of the law of causation, *it rather presupposes it*, and that too not only between matter and matter, but also between mind and matter, and mind and mind. It denies freedom to the single empirical mental act, and brings it too under the necessity of the law of causality. This may be the first word towards coming to an understanding with the opponents of the doctrine of final causes.

Let us assume that M has been observed to be an efficient cause of Z, and let all the material circumstances

n.n. existing at the moment of the occurrence of M have been ascertained. Further, let the proposition be admitted that M must have a sufficient efficient cause. Now three cases are possible: either the sufficient cause of M is contained in *n.n.*, or certain other circumstances, but those material, which have escaped observation, are still wanting, or, lastly, the sufficient cause of M is not to be found on the material plane, consequently must be sought in the spiritual sphere. The second case contradicts the assumption, that all the material circumstances, which immediately preceded the occurrence of M, are contained in *n.n.* If such a condition is, strictly speaking, incapable of being satisfied, since the whole position of the system of the world would have to be taken into account, yet it is easy to see that the cases are very rare, where conditions essential to the occurrence can lie outside a well-defined region, and no unessential circumstance need be taken note of; *e.g.*, the circumstances essential to the spider's spinning nobody will look for outside the spider, (say) in the moon. If we then assume the probability, that any material circumstance essential to the event has not been taken note of, and therefore not contained in *n.n.*, to be so small that it may be neglected,[1] there remain only the two cases, that the sufficient cause is contained in *n.n.*, or is of a spiritual nature. That the one or the other case must occur is their certainty, *i.e.*, the sum of their probabilities is equal to 1 (which signifies certainty). If now the probability that M is caused by *n.n.* $= \frac{1}{x}$, then the probability that it has a mental cause $= 1 - \frac{1}{x} = \frac{x-1}{x}$;

[1] It must always be remembered, that events are never probable, but always necessary, to an omniscient being, and that it is only our ignorance which makes possible that uncertainty, which is the foundation of the calculus of probability. Only when our ignorance is utterly disproportionate to the knowledge available for calculation does the probable error, which every coefficient of probability possesses, become so great as to make the value of the latter illusory. Otherwise, if the probable errors in the statement of the problem are confined within moderate limits, the probable error in the result in our examples becomes inappreciable.

the smaller $\frac{1}{x}$ becomes, the larger x becomes, the more $\frac{x-1}{x}$ approaches to 1, *i.e.*, to certainty. The probability $\frac{1}{x}$ would become equal to 0, if we had the direct proof in our hands that M is not caused by *n.n.*; if, for instance, a case could be established where *n.n.* is present and M has not occurred. This is certainly impossible with the whole of *n.n.*, since every spiritual cause must have material connections, but we shall often succeed in eliminating at least one or more of the circumstances *n.n.*, and the fewer the number of the circumstances *n.n.* to be regarded, which being present the event M at any time occurs, the easier becomes the determination of the probability that they do not contain the sufficient cause of M.

To make the matter clearer let us take an example. That brooding on the egg is the cause of the young bird being hatched is an observed fact. The material circumstances (*n.n.*) immediately preceding the brooding (M) are the existence and the constitution of the egg, the existence and the bodily constitution of the bird, and the temperature of the place where the egg lies; further material circumstances are inconceivable. The probability is in the highest degree small, that these circumstances are sufficient to cause the cheerful and lively bird to abandon its customary and instinctive way of life and to prompt it to a wearisome brooding over its eggs; for though the increased pressure of blood in the abdomen may produce a heightened feeling of warmth, this is not diminished, but increased, through the quiet sitting in the warm nest on the blood-hot eggs. We already see that the probability $\frac{1}{x}$ is very small, and $\frac{x-1}{x}$ approaches 1. If we, however, put the question the other way, viz., whether a case is known to us where bird and eggs are the same and yet incubation does not take place, we are met by the case of birds which have made their nests in

hot forcing-houses and have omitted to brood, just as the ostrich hatches its eggs only in the night—in hot Nigritia not at all. Accordingly of the circumstances *n.n.*, bird and eggs are obviously not sufficient causes of the brooding (M), and there remains as the only material circumstance, which could avail to make the cause sufficient or complete, the temperature of the nest. No one will think it probable that the lower temperature is the *direct* occasion of the incubation, consequently for the particular event the existence of a spiritual cause, through which alone the ascertained influence of temperature on the event can be thought to be brought about, becomes as good as certain, although at the same time the question of the precise nature of this spiritual cause still remains open.

The estimation of the probability is not always as easy as in this instance, and very rarely when M is simple will it approach so near to certainty. In lieu thereof we are usually helped by the circumstance that M, the observed cause of Z, for the most part is not simple, but consists of different independent[1] events, P_1, P_2, P_3, P_4, &c. If we now, again, in the first instance, leave on one side the question whether all the essential material circumstances have been taken into account, we have to ascertain:

The probability,

that P_1 has its sufficient cause in *n.n.* $= \frac{1}{p_1}$

" P_2 " " " $= \frac{1}{p_2}$

" P_3 " " " $= \frac{1}{p_3}$

" P_4 " " " $= \frac{1}{p_4}$

1 To ascertain the actual *independence* of the co-operating conditions in any given case may often be very difficult, and a main source of error. This material difficulty in practical application, however, does not here concern us, where we are only dealing with the establishment of the formal side of the purposive thought-process.

Hence the probability, that M has its sufficient cause in *n.n.* $= \frac{1}{p_1 p_2 p_3 p_4}$; for M is the sum of the events P_1, P_2, P_3, P_4; consequently, if M is to be produced by *n.n.*, *both* P_1, *and* P_2, *also* P_3, P_4, *must* at the same time be produced by *n.n.* This probability is, however, the product of the several probabilities. (If, *e.g.*, on the first throw of a die, the probability of throwing $2 = \frac{1}{6}$, on the second likewise $= \frac{1}{6}$, the probability of throwing 2 with both dice at once $= \frac{1}{6} \cdot \frac{1}{6}$.) Consequently, the probability that M is not sufficiently accounted for by *n.n.*, that it accordingly still requires a spiritual cause

$$= 1 - \frac{1}{p_1 p_2 p_3 p_4} = \frac{p_1 p_2 p_3 p_4 - 1}{p_1 p_2 p_3 p_4}.$$

Here, then, $p_1 p_2 p_3 p_4$ is what x was before, and it appears from this that p_1, p_2, p_3, and p_4 only need to be individually a little greater than $\sqrt[4]{2} = 1{\cdot}189$, consequently $\frac{1}{p_1}$, $\frac{1}{p_2}$, $\frac{1}{p_3}$, and $\frac{1}{p_4}$ each a little less than $0{\cdot}84$, for $p_1 p_2 p_3 p_4$ as product of the four factors to become greater than 2, and $\frac{p_1 p_2 p_3 p_4 - 1}{p_1 p_2 p_3 p_4}$ greater than $\frac{1}{2}$. In other words, if, for the several events P_1, P_2, P_3, P_4, the probability of a spiritual cause $\left(1 - \frac{1}{p}, \text{\&c.}\right)$ is only small $(< 0{\cdot}16)$, yet for their sum M its value rises as the number of distinct events which go to make up M becomes larger. *E.g.*, let the probability of a spiritual cause be for each on the average only $\frac{1}{5} = \left(1 - \frac{1}{p}\right)$, then $\frac{1}{p_1} = \frac{1}{p_2} = \frac{1}{p_3} = \frac{1}{p_4} = \frac{4}{5} = 0{\cdot}8$, consequently $\frac{1}{p_1 p_2 p_3 p_4} = 0{\cdot}4096$ and $1 - \frac{1}{p_1 p_2 p_3 p_4} = 0{\cdot}5904$, a very respectable probability of about $\frac{3}{5}$. One easily

sees that those parts of M, which undoubtedly result merely from *n.n.*, are self-eliminated from the calculation, since their probability enters as 1 into the product of the rest, *i.e.*, leaves it unchanged.

Let us consider an example of this case also. As cause of vision (Z) a multitude (M) of conditions (P_1, P_2, P_3, P_4) have been observed, the most important of which are the following:—(1.) Special bundles of nerves issue from the brain, which are of such a nature that each stimulus affecting them is perceived in the brain as a sensation of light; (2.) They terminate in a peculiarly formed very sensitive nervous tissue (retina); (3.) Before the latter is placed a camera-obscura; (4.) The focal distance of this camera is in general adapted to the indices of refraction from *air* into the ocular humours (except in the case of aquatic animals); (5.) By means of various contractions the focal distance is capable of being changed for longsighted persons from a few inches to infinity; (6.) The quantity of light to be admitted is regulated by the contraction and dilatation of the iris, whereby an additional aid to clear vision is afforded by the cutting off of the peripheral rays; (7.) The segments of the rods or cones continuous with the nerve-endings form a mosaic, so contrived, that each segment changes light-waves of definite wave-lengths (colour) into stationary waves, and thus produces in the appropriate primitive nerve-fibre the physiological colour-vibrations; (8.) Binocular vision conditions the perception of solidity and reveals the third dimension of space; (9.) The two eyes may be simultaneously moved by means of special nerve-bundles and muscles, but only in the same direction, thus unsymmetrically in reference to the muscles; (10.) The clearness of the visual pictures increasing from periphery to centre prevents the otherwise unavoidable distraction of the attention; (11.) The reflex turning of the visual axis to the brightest point of the field of vision facilitates education by the medium of sight and the for-

mation of the ideas of space; (12.) The constant flow of tears keeps the surface of the cornea transparent and removes the dust; (13.) The secluded position in the bony socket, the lids which close reflectorially on the approach of danger, the eyelashes and eyebrows, protect the organ from being rendered useless by external influences.

All these thirteen conditions are necessary for the existence and maintenance of normal vision; they are all there at the birth of the child, although the occasion for their exercise has not yet been afforded; the circumstances preceding and accompanying their origin (*n.n.*) are accordingly to be sought in procreation and the life of the fœtus. The physiologists, however, it may safely be said, will never succeed, with the least show of probability, in exhibiting the sufficient cause for the origin of all these conditions in the blastoderm of the fertilised ovum and the material fluids which supply it: one cannot see why the child should not develop even without optic nerve or without eye at all. Suppose now, however, that we fell back upon our ignorance, although that is a bad ground for positive probabilities, and assumed a tolerably high probability for the development of any of the thirteen conditions from the material conditions of embryonic life, say $\frac{9}{10}$ (a probability which but a small portion of our most certain knowledge possesses), still the probability that *all* these conditions follow from the material relations of the embryonic life is only $0{\cdot}9^{13} = 0{\cdot}254$. The probability, therefore, of a spiritual cause being required for the sum of conditions $= 0{\cdot}746$, *i.e.*, almost $\frac{3}{4}$. In truth, however, the several probabilities perhaps $= 0{\cdot}25$, or at the most $0{\cdot}5$. and accordingly the probability of a spiritual cause for the whole $= 0{\cdot}9999985$ or $0{\cdot}99988$, *i.e.*, certainty.

We have just seen, how *from material events we may conclude to the co-operation of spiritual causes, without the latter being open to immediate inspection.* From this to the recognition of final causes there is but one step. A spiritual *cause* for material events can only consist of

spiritual *activity*; and, moreover, where the spirit has to work outwardly, Will must be present, and the idea of *what* the Will wills cannot be wanting, as is more fully discussed in Chap. iv, A. The spiritual cause is thus Will in union with Idea, the idea namely of the material event which is to be brought about (M). We assume here, for the sake of brevity, that M proceeds *directly* from a spiritual cause, which is by no means necessary. Let us ask further, what can be the cause of M being *willed?* Here the causal chain is at once broken, if we do not adopt the simple natural hypothesis, the willing of Z. Now, it is obvious that Z cannot influence the event as real existence, but only idealiter, *i.e.*, as mental object, according to the axiom that the cause must be prior to the effect. That, however, willing-of-Z is a sufficient motive for willing-of-M is likewise a self-evident proposition, for whoever wishes to produce the effect must also will to produce the cause. To be sure on this hypothesis we only obtain a genuine explanation, if the willing-of-Z is in itself more comprehensible to us than the willing-of-M. The sufficient motive of the willing-of-Z must then lie either in the realisation of Z, or in a willing of Z_1, which Z_1 follows on Z as its effect; a consideration admitting of indefinite repetition. The more evident is the last motive at which we stop, the more probable does it become that the willing-of-Z is cause of the willing-of-M.—It is easy to see that this is, in point of fact, the course of our speculation with regard to natural ends. We have seen, for example, that the bird broods because it wills to brood. We must either be satisfied with this barren result and forego all explanation, or we must ask why is brooding willed? Answer: because the development and hatching of the young bird is willed. We are still in the same plight; we therefore inquire further, why is the development of the young bird willed? Answer: because propagation is willed; and this, because the continued duration of the species, despite the shortness of

the individual life, is willed; and here we get a motive which may provisionally satisfy us. We are accordingly entitled to assume, that the willing of the development of the young bird is the cause (no matter whether direct or indirect) of the willing of the brooding, *i.e.*, that the former is aimed at through the mean of brooding. (The point is not, whether the bird is conscious of this aim or not, although the supposition would be absurd in the case of a young bird bred in seclusion, for whence could it have derived the conscious knowledge of the effect of incubation?) Certainly there always remains the possibility that an immaterial cause is at the bottom of the event M, without its being motived by the will to produce Z; consequently the probability that Z is *purposed* will be a product of the probability that M has a spiritual cause $\left(1 - \frac{1}{x}\right)$, and of the probability that this spiritual cause has the willing of Z for its cause $\frac{1}{y}$; the product $\left(1 - \frac{1}{x}\right)\frac{1}{y}$ must, however, of course be smaller than either of the factors, since every probability is less than 1. Here, too, the probability may be considerably increased, if the several conditions (P_1, P_2, P_3, P_4), of which M is usually compounded, be taken into account. The probability that Z is aimed at by means of P_1 is, according to the foregoing, $\left(1 - \frac{1}{p_1}\right)\frac{1}{q_1}$, if $\frac{1}{q_1}$ is the probability that the immaterial cause has for its cause the *willing of Z*: accordingly the probability that P_1 has *not* Z in view $= 1 - \left(1 - \frac{1}{p_1}\right)\frac{1}{q_1}$. Consequently the probability that *neither* P_1, *nor* P_2, *nor* P_3, *nor* P_4 has Z for end, *i.e.*, that Z is in nowise aimed at through M = the product of the several probabilities

$$= \left[1 - \left(1 - \frac{1}{p_1}\right)\frac{1}{q_1}\right]\left[1 - \left(1 - \frac{1}{p_2}\right)\frac{1}{q_2}\right] [\&c.$$

$$\text{or} = \prod_{1..n}\left\{1 - \left(1 - \frac{1}{p_1}\right)\frac{1}{q_1}\right.$$

Consequently the probability that M in any part thereof has Z for its end, *i.e.*, the probability that Z is at all an end with respect to M, is equal to the complement of this quantity in respect of 1, $= 1 - \prod_{1..n} \left(1 - \left(1 - \frac{1}{p_1}\right)\frac{1}{q_1}\right.$. $\frac{1}{p_1}, \frac{1}{p_2}$, &c., are genuine fractions, just as $\frac{1}{q_1}, \frac{1}{q_2}$, &c., consequently also

$$1 - \frac{1}{p_1}, \text{ and } \left(1 - \frac{1}{p_1}\right)\frac{1}{q_1}, \text{ and } 1 - \left(1 - \frac{1}{p_1}\right)\frac{1}{q_1},$$

and so on, consequently also their product,

$$\prod_{1..n} \left(1 - \left(1 - \frac{1}{p_1}\right)\frac{1}{q_1}\right.$$

Hence it follows, that this product becomes smaller the larger the quantity n becomes; for if n increases to 1 the newly-introduced factor is

$$1 - \left(1 - \frac{1}{p^n + 1}\right)\frac{1}{q^n + 1}.$$

This factor, like the product, is a genuine fraction, therefore the product of both must be a genuine fraction, which is smaller than either of the two factors, *q. e. d.*—From the circumstance that n increasing $\prod_{1..n}($ becomes smaller, it follows that n increasing $1 - \prod_{1..n}($ becomes larger; accordingly this probability also grows with the number of conditions of which M is compounded. Let

$$\left(1 - \frac{1}{p_1}\right)\frac{1}{q_1}, \left(1 - \frac{1}{p_2}\right)\frac{1}{q_2}, \text{ \&c.}$$

be on the average $= \frac{1}{4}$, *i.e.*, let the probability, that each of the conditions of Z taken singly has this particular end in view, be on the average $= \frac{1}{4}$, consequently very improbable. Then $1 - \left(1 - \frac{1}{p}\right)\frac{1}{q}$ is on the average $= \frac{3}{4}$; this raised merely to the fourth power gives $\frac{81}{256}$, consequently

$$1 - \left[1 - \left(1 - \frac{1}{p}\right)\frac{1}{q}\right]^4 = \frac{175}{256} = \text{over } \frac{2}{3};$$

i.e., there results on the whole a very fair probability, for any one, who should bet 2 to 1 on the existence of Design, would still win. The application to the example of vision is obvious.

We learn from the above, that those effects in particular can safely be regarded as ends, which need for their production a considerable number of causes, each of which has a certain probability of being means to the particular end. It is, therefore, no wonder that just the most general phenomena of Nature have always been most widely admitted to be ends. For example, the existence and continuance of organic nature as end of its own arrangements, as well as of those of inorganic nature. It is precisely here that an infinite number of causes co-operate to secure one grand result, the continuance of organisms. So far as these causes lie in the organisms themselves, they are divisible into those which conduce to the maintenance of the individual, and those which subserve the preservation of the species. Both of these points have seldom wanted recognition as natural ends. If we now call such an end cognised with the greatest possible certainty Z, we know that none of its many causes can be wanting, if it is to be attained; thus, *e.g.*, not M. Now since I know that both Z and M were willed and imagined *before* their real existence, and I see that among others the external cause M_1 is requisite for the occurrence of M, the assumption, that M_1, too, was willed and imagined *before* its real existence, obtains a certain probability through this regressive inference. Whether, namely, M be realised through the immediate action of a spiritual cause, or indirectly in that it follows from material causes, of which a few or several are spiritually caused, in both cases M_1 may be willed and represented before its real existence as means to the end M. In the latter case this is perfectly clear, but also in the former case the immediate interweaving of a spiritual cause in the realisation of M does not preclude the material causes of M, and therefore of M_1, springing in larger

or smaller part, from spiritual causes, which had M and Z for their ends. In organic nature this is even the normal state of the case. The result of this reasoning in any case is a certain probability that M_1 is also aimed at, and although it may not be in itself great, still it is always a strengthening of the directly obtained degree of probability which is not to be despised, since all later links in the chain have the benefit of this probability by its repetition at every stage.

From these considerations it is evident that the ways, in which ends are perceived in Nature, are multifariously combined. No claim is set up for the application of such calculations in practice, but they serve to clear up the principles which more or less unconsciously regulate the logical procedure of every one who correctly reflects on this subject, and who does not dogmatise thereon from the lofty heights of some *à priori* system. The examples adduced in this chapter are not intended to serve as a proof of the truth of Teleology, but only for the elucidation and illustration of the abstract expositions, which likewise will assuredly convert no opponent to the hypothesis of ends in Nature, for only examples *en masse* can do that; but perhaps they will lead some, who thought themselves to have outgrown the belief in Purpose as manifested in Nature, to weigh alleged instances thereof more carefully and impartially; and no other than this, viz., as a preparation for Section A. of our inquiry, was the design of the present chapter.

A.

THE MANIFESTATION OF THE UNCONSCIOUS IN BODILY LIFE.

"The Materialists endeavour to show that *all*, even *mental* phenomena, are *physical:* and *rightly;* only they do not see that, on the other hand, everything physical is *at the same time metaphysical.*"—SCHOPENHAUER.

I.

THE UNCONSCIOUS WILL IN THE INDEPENDENT FUNCTIONS OF THE SPINAL CORD AND GANGLIA.

THE time has gone by when the animals were contrasted with the free man as locomotive machines, as soulless automata. Deeper insight into the life of animals, strenuous effort to understand their language and the motives of their actions, has shown that with respect to mental capacity man differs from the brutes in degree and not in kind, just as the brutes differ among themselves; that in virtue of this higher capacity he has created a more perfect form of speech, and thereby has gained in the course of generations that perfectibility which is wanting to the brutes, owing to their imperfect means of communication. We accordingly know now, that we cannot compare the educated man of to-day with the animals, without being unjust to the latter, but only the peoples which are but little removed from the state in which they were fashioned by the hand of Nature; for we know that even our own race, privileged as it now is by higher aptitudes, was once what these still are, and that our present higher qualities of brain and mind have been only gradually attained through the law of hereditary transmission of acquired power. Thus the animal kingdom is presented to us as a finished scale of being, with pervading analogies. The fundamental spiritual faculties must be essentially the same in all, and what in the higher members appear to be new faculties are only secondary powers, which have been developed

in certain directions by the higher culture of common elementary capacities. In all beings these fundamental or primitive activities of the mind are willing and thinking; for feeling (as I shall show in Chap. iii. B) may, with the help of the Unconscious, be developed from these two.

We shall speak in this chapter only of the Will. It is scarcely to be doubted, that what we regard as immediate cause of our action and call Will is to be found in the consciousness of animals as causal moment of their action, and must also be called Will, if we cease to give ourselves airs of superiority by employing different names for the very same things (as devouring, swilling, littering, for eating, drinking, child-bearing). The dog *will* not separate from its master; it *wills* to save the child which has fallen into the water from the well-known death; the bird *will* not let its young be injured; the cock *will* not share his hen with another, &c. I know there are many people who think they elevate man, when they ascribe as much as possible in the life of animals, especially the lower ones, to "reflex action." If these persons have in their minds the ordinary physiological sense of the term reflex action, involuntary reaction on an external stimulus, it may safely be said that either they have never observed animals, or that they have eyes but they see not. If however they extend the meaning of reflex action beyond its usual physiological acceptation, they are assuredly right, but then they forget: firstly, that man, too, lives and moves in pure reflex actions—that every act of will is a reflex action; and secondly, that *every* reflex action is an act of will, as we shall show in Chap. V.

Let us then retain provisionally the usual narrower acceptation of reflex action, and speak only of such acts of will as are not reflexes in this sense, *i.e.*, are not involuntary reactions of the organism on external stimuli. There are two marks in particular whereby volition may be distinguished from reflex actions: firstly, emotion, and

secondly, consistency in carrying out an intention. Reflex actions are mechanical and passionless; but one need not be skilled in the art of physiognomics to clearly perceive the presence of an emotion even in the brutes. It is well known that several species of ants wage war with one another, one state subjugating and enslaving the citizens of another state, in order to obtain labourers for its operations. These wars are waged by a warrior caste, whose members are larger and stronger, and provided with more powerful nippers. It is only necessary to have once witnessed this army knocking at the hostile edifice, to have seen the workers withdraw and the warriors come out to do battle, with what bitterness the fight is carried on, and how, after an unsuccessful contest, the constructors of the building surrender themselves captive, to have no longer any doubt that this premeditated raid shows a very decided will, and is something altogether different from reflex action. The like is the case with the swarms of robber-bees.

Reflex action disappears and reappears with the external stimulus, but it cannot form a purpose, which it pursues under changed external circumstances with appropriate change of means. *E.g.*, when a decapitated frog, having remained quiet a long time after the operation, suddenly begins to make natatory movements or to hop away, one might be inclined to look upon this as mere physiological reflex action, as result of the irritation of the terminations of the divided nerve by the air. But when the frog in various experiments, the cutaneous irritation and the part affected being the same, overcomes different obstacles in a different way, but equally suited to the purpose; when, having taken a fixed direction, and being turned therefrom, it tries with rare obstinacy constantly to regain it; when it creeps away under a cupboard or into other odd corners, manifestly to seek protection from its persecutors,—there is unmistakable evidence of non-reflectorial acts of will, regarding which

even the physiologist Goltz justly concludes from his careful experiments, that there is no avoiding the assumption of an intelligence not confined to the cerebrum, but astricted to various central organs for the exercise of different functions (*e.g.*, to the corpora quadrigemina for the maintenance of equilibrium).

From this example of the decapitated frog and the volition of all invertebrate animals (*e.g.*, insects) it follows that *no brain at all* is requisite for the exercise of will. Since in the invertebrata the œsophageal ganglia take the place of the brain, we must assume that these also suffice for the act of will, and in the above-mentioned frog cerebellum and spinal cord must have supplied the place of the cerebrum. But we cannot confine the will of invertebrate animals to the œsophageal ganglia; for when the anterior part of one bisected insect continues the act of devouring, and the posterior part of another the act of propagation, when praying crickets with their heads cut off even seek their females for days, find them and copulate, just as if they were unscathed, it is tolerably clear that the will to devour has been an act of the œsophageal ring, but the will to propagate, in these cases at least, an act of other ganglia of the trunk. The like independence of the will in the different ganglia of one and the same animal is observed, when the two halves of a divided earwig, or of an Australian ant, turn against one another, and, under the unmistakable influence of the passion of anger and lust of fighting, contend furiously with their antennæ till exhaustion or death ensues. But we must not limit the activity of the will even to ganglia; for we find voluntary action even in animals of a very low type, where the microscope of the anatomist has discovered no trace either of muscular fibrin or of nerves, but only the fibroin of Mulder (now called protoplasm). Here probably the semifluid slimy substance of the animal, as in the first stages of embryonic development, fulfils in an inferior manner those conditions

to which the nerve substance owes its irritability, and special fitness as an instrument of the will, viz., the easy mobility and polarisability of the molecules. Let any one take a glass of water containing a polype, and place it in such a position that a part of the water is illuminated by the sun; the polype will instantly propel itself out of the dark towards the illuminated part of the water. If now a living infusorion be placed therein and it approaches within a few lines of the polype, the latter perceives it—God only knows how—and produces a whirlpool with its arms, in order to draw it within its grasp. On the other hand, should a dead infusorion, a small vegetable organism, or a particle of dust, approach quite as close, it does not trouble itself at all about it. The polype then perceives the animalcule to be living, draws therefrom the inference that it is fit for food, and adopts means to bring it within reach of its mouth. Not seldom also one may see two polypes in bitter conflict over a prize. No one will venture to call a will guided by a sense-perception so fine and so clearly manifested physiological reflection in the ordinary sense of the term, otherwise we should have to term it reflex action when the gardener bends the bough of a tree to reach its fruit. Accordingly, when we see acts of will in animals destitute of nerves, we can certainly not hesitate to recognise the same in ganglia.

This result is also suggested by comparative anatomy, which teaches that the brain is an aggregation of ganglia connected with nerve-fibres, and that the spinal cord in its central grey matter is likewise a series of ganglia which have coalesced. The Articulata are the first to show a weak analogue of the brain in the form of two nodules connected by the œsophageal ring and also of the spinal cord in the so-called ventral cord, the latter containing ganglia united by fibres, each of which answers to a segment and pair of legs. Accordingly physiologists assume as many independent

centres in the spinal cord as there are pairs of spinal nerves issuing therefrom. Among the Vertebrata there are fishes, whose brain and spinal cord consist of a number of ganglia, which lie in a row behind one another. The composition of a central organ from several ganglia is positively confirmed by the metamorphosis of insects, when certain ganglia, which are separate in the larva state, appear consolidated at a more advanced stage of development.

These facts may suffice to prove the essential resemblance of brain and ganglia, brain-will and ganglia-will. But now, if the ganglia of lower animals have their independent wills, if the spinal cord of a decapitated frog has its will, why should not the so much more highly organised ganglia and spinal cord of the higher animals and of man also have their will? If in insects the will to devour lies in anterior, the will to procreate in posterior ganglia, why in man should not such a division of labour be likewise provided for his will? Or is it conceivable that the same natural phenomenon should in the less perfect form exhibit effects which are entirely wanting in the more perfect form? Or must we suppose that in man the conduction is so good, that every ganglionic volition is immediately transmitted to the brain and appears in consciousness undistinguishable from the volition generated in the brain? This may, perhaps, be true to a certain extent for the upper parts of the spinal cord, certainly not for all the rest, since the channels of sensation from the hypogastric plexus are almost imperceptible. No other course is left open, then, but to ascribe independent wills to the human ganglia and spinal cord, the manifestations of which it only remains empirically to prove. That in the case of higher animals the muscular movements which effect external actions are more and more under the control of the cerebellum, and consequently centralised, is well known. Facts, therefore, will not be forthcoming here to any great extent;

and this is doubtless the reason why hitherto the independence of the ganglionic system in higher animals has been so little recognised by physiologists, although defended by the most recent investigators. Those voluntary acts, on the contrary, which are actually to be ascribed to the ganglia, have been usually regarded as reflex actions, whose stimuli are said to exist in the organism itself, which stimuli accordingly were arbitrarily assumed when they were not assignable. In part these assumptions may be justified; they then belong to the chapter on Reflex Actions. It is not a large part, however, in any case, and, moreover, it cannot do any harm, to consider here even those which are reflex actions proper from the point of view of the Will, since it will be hereafter proved that every reflex action contains an unconscious Will.

The independent movements effected by the sympathetic nervous system, *i.e.*, without the co-operation of brain and spinal cord, are: (1.) The beating of the heart; (2.) the movements of the stomach and the intestines; (3.) the tonic contractions of the lower part of the alimentary canal and muscular coats of the arteries; (4.) an important part of the processes of organic life, so far as they depend on nervous action. The intermittent type of movement is shown in the beating of the heart, tone of the arteries, and movements of the intestines; and the persistent movements are illustrated by the other processes. The beating of the heart, as may be seen in an exposed frog's heart, begins with the contraction of the venæ cavæ; the contraction of the auricles follows, then that of the ventricles, and finally that of the bulbus aortæ. In an excised frog's heart sprinkled with salt water the cardiac ganglia continue to perform their function of stimulating the heart to beat for hours together. In the case of the intestines the movement begins at the lower part of the œsophagus, and progresses vermicularly from above downwards, one wave hardly completing its course before the next begins. Have

not these movements of the intestines the most surprising resemblance to the creeping of a worm, with the simple difference that the worm propels itself forward on its support, whilst here the worm is fastened, and the (inner) support, the masses of food and the fæces are pushed forward? Should the one be called Will and not the other? The "tone" is a slight muscular contraction, which is ceaselessly exhibited by all muscles during life, even in sleep or swoon. In the case of muscles subservient to volition (the cerebral will), it is maintained by the spinal cord, and there is only no movement of the limbs, because the actions of the opposing muscles (antagonists) neutralise one another. Where, therefore, there are no opposing muscles (as, *e.g.*, in the circular sphincters), the contraction is clearly manifested, and can only be overcome by strong pressure of the fæces. The tone of the intestines, arteries, and veins depends on the sympathetic system, and the latter is absolutely necessary for the circulation of the blood. Lastly, as concerns secretion and nutrition, these can be influenced by the nerves, partly by means of dilatation and contraction of the capillary vessels, partly by tension and relaxation of the membranes concerned in osmosis, partly through the setting up of chemical, electrical, and thermal currents. All these functions are carried on exclusively by subordinate ganglia through the agency of the sympathetic fibres found in all nerve-trunks, which are chiefly distinguishable from the sensory and motor fibres by the absence of a medullary sheath.

The surest proofs of the independence of the ganglionic system are derived from Bidder's experiments on frogs. The spinal cord having been completely destroyed, the animals lived often six, sometimes ten weeks (with gradually slackening heart-beat). On destruction of the brain and spinal cord, the medulla oblongata alone being spared (for breathing), they lived six days; when this also was destroyed, the beating of the heart and circulation

of the blood could be still observed even on the second day. The frogs whose medulla oblongata had been preserved ate and digested their worms after six-and-twenty days, whilst micturition took place regularly.

Besides the above-mentioned tone of the voluntary muscles, the spinal cord (including the medulla oblongata) regulates all involuntary movements of the voluntary muscles (reflex movements, see Chap. V.) and the respiratory movements. The latter have their central organ in the medulla oblongata; and not merely a large number of the spinal nerves, but also the *N. phrenicus, accessorius, Willisii, vagus*, and *facialis*, co-operate in the production of these highly complicated movements. Although the cerebral will is able for a short time to strengthen or to suppress the respiratory movements, it can never entirely abolish them, since, after a little pause, the will of the spinal cord regains the upper hand.

The independence of the spinal cord on the brain is likewise proved by many beautiful physiological experiments. A hen, from which Flourens had removed the entire cerebrum, sat indeed motionless as a rule; but on going to sleep it tucked its head under its wings; on waking, it shook itself and preened its feathers. When pushed, it ran forward in a straight line; when thrown into the air, it flew. It did not eat spontaneously, but only swallowed the food thrust into its bill. Voit repeated these experiments with pigeons. They first fell into a deep sleep, from which they only awoke after a few weeks; then, however, they flew and moved of their own accord, and comported themselves in such a manner as to leave no doubt of the existence of their sensations; only intelligence was lacking, and they did not spontaneously take food. Thus a pigeon, having thrust its beak against a suspended wooden pendulum, caused it to swing for upwards of an hour till Voit's return, so that the pendent spool over and over again struck its beak. On the other hand, such a brainless pigeon endeavours to evade a

hand trying to grasp it, to carefully avoid obstacles in its flight, and can settle cleverly on narrow supports. Rabbits and guinea-pigs, whose cerebrum has been removed, run freely about after the operation; the behaviour of a decapitated frog has been already mentioned. All these movements, as the preening of its feathers by the hen the leaping of rabbits and frogs, take place without noticeable external stimulus, and are so like the same movements in uninjured animals that it is impossible to assume a difference in the underlying principle in the two cases: in the one case as in the other, there is a manifestation of will. Now we know that the higher animal consciousness is conditional on the integrity of the cerebrum (see Chap. ii. C.), and when this is destroyed, it is said these animals are without consciousness, and accordingly act and will unconsciously. But the cerebral consciousness is by no means the sole, but merely the highest consciousness of the animal, the only one which in higher animals and in man attains to self-consciousness, to the *ego*, therefore also the only one which I can call *my* consciousness. That, however, the subordinate nerve-centres must also have a consciousness, if of a vaguer description, plainly follows from the continuity of the animal series, and a comparison of the ganglionic consciousness of the Invertebrata with that of the independent ganglia and central parts of the spinal cord of the higher animals.

It is beyond a doubt that a mammal deprived of its brain is always capable of clearer feeling than an uninjured insect, because the consciousness of its spinal cord stands in any case higher than that of the ganglia of the insect. Accordingly this will, which gives evidence of itself in the independent functions of the spinal cord and the ganglia, is by no means to be at once declared to be in itself unconscious; we must rather provisionally assume that for the nerve-centres from which it proceeds it certainly may become more or less clearly conscious. On

the other hand, compared with the cerebral consciousness which a man exclusively recognises as *his* consciousness, it is certainly unconscious, and it is accordingly shown that *there exists in us an unconscious will,* since these nerve-centres are all contained in our corporeal organism, therefore in *us.*

It seems requisite to add, in conclusion, a remark with respect to the sense in which the word Will is here taken. We started with understanding by this word a conscious intention, which is the ordinary signification. We have found, however, in the course of our investigation, that in a single individual, but in different nerve-centres, there may exist consciousnesses and wills more or less independent of one another, each of which can *at the most* be conscious for the nerve-centre through which it is expressed. In saying this, the usual limited meaning of Will is necessarily abandoned; for I must now recognise another will *in me* than that which has been exerted through my brain, and has thereby become conscious to *me.* After these limitations of meaning have fallen away, we can no longer avoid understanding by Will the immanent cause of every movement in animals, which is not produced reflectorially. This may also be taken as the sole characteristic and infallible mark of the will of which we are conscious, that it is a *cause* of preconceived action. It is now seen, that it is somewhat *accidental to the will,* whether it passes through the *cerebral* consciousness or not; its essence remains thereby unaffected. What then in the present work is denoted by the word "Will" is no other than the same essential principle in both cases. If, however, it is particularly desired to distinguish the two kinds of will, for conscious will language already offers a term exactly covering this conception—Freewill—whilst the word Will must be retained for the general principle. Will, we know, is the resultant of all contemporaneous desires; if this struggle of desire is consciously waged, it appears as choice of the result, or freewill, whilst the origin of the unconscious will

is withdrawn from consciousness, consequently even the semblance of choice among desires cannot here occur. One sees from the existence of this term Freewill, that the idea of a more general will with *non-selected* content or aim, whose actions thus appear to consciousness not as free, but as inward compulsion, has long been in the popular consciousness.

I do not merely rely upon the precedent of Schopenhauer and the wide-spread acceptance (even abroad) that this use of the word Will has already found, but upon the fact, that no other word in general use in the Teutonic languages is more appropriate to designate the broad principle which is treated of in the present and following chapter. "*Desire*" is volition still incomplete, in the making, as it were, one-sided as not having yet stood the test of resisting other desires. It is only an unfinished product of the psychological laboratory of Volition, not the final collective expression of the activity of the whole individual (be it of higher or of lower order). It is only a *component* of the will, which, in consequence of being paralysed by other opposite desires, may be condemned to remain velleity. If "desiring" cannot be substituted for "willing," still less can "*Impulse;*" since it not only suffers from the same one-sidedness and limitation as desire, but does not even include the notion of actuality. It rather only represents the *latent disposition* to certain one-sided tendencies to action, which, if they become actual in consequence of some motive, are *no longer* called *impulse* but *desire*. Every impulse thus denotes a definite aspect, not of volition, but of the *character*, *i.e.*, the tendency of the latter to react on certain classes of motives with desires of a fixed direction (*e.g.*, sexual impulse, migratory impulse, acquisitive impulse, &c ; *cf.* the phrenological "instincts" or "primitive faculties "). As specific predispositions the impulses rightly stand for inner springs of action, just as motives represent the outer ones. Impulse then, as such, has necessarily a definite concrete content, which is

conditioned by the physical predispositions of the general bodily constitution and the molecular constitution of the central nervous system. Will, on the other hand, as universal formal principle of movement and change, stands altogether *behind* the concrete dispositions, which, when conceived as informed by the will, are called impulses, and is realised in the resulting volition, which receives its particular content through the psychological mechanism of motives, impulses, and desires (*cf.* Chap. iv. B.) Although in the lower animals and in the subordinate central organs of man this mechanism is simple in comparison with that of the human brain, it is none the less present, and easily reveals itself in reflex movements. Even in the case of the independent functions of the spinal cord and ganglia the inherited innate material predisposition of the medulla oblongata to effect the respiratory movements may very well be called a "respiratory impulse," if only it be not forgotten that behind this material arrangement stands the principle of the will, without which it could as little be functional as, say, the innate cerebral disposition for compassion, and that the exercise of the respiratory movements themselves is an actual *willing*, whose direction and content is conditioned by such predisposition.

II.

UNCONSCIOUS IDEATION IN THE EXECUTION OF VOLUNTARY MOVEMENT.

I WILL to lift my little finger, and the finger is lifted. Does, then, my will directly move my finger? No; for if the brachial nerve be divided the will cannot move it. Experience teaches that for every movement there is only one part, namely, the central ending of the nerve-fibres concerned, which is able to carry into effect the volitional impulse for this particular movement of this particular member. Should this one part be injured, the will would have just as little power over the member, as it would have if the nervous communication between that place and the muscles were interrupted. The motor impulse itself we cannot, intensity apart, imagine to be different for different nerves; for since the excitation in all motor nerves is to be looked upon as homogeneous, it cannot be otherwise with the excitation at the centre, whence the current issues; consequently movements only differ in this, that the central endings of different motor nerves are affected by the volitional impulse, and thereby different muscles are constrained to contract. We may thus picture to ourselves the central termination of motor fibres in the brain as a kind of keyboard. The touch is, intensity apart, always the same; the touched keys alone are different. If, then, I intend a specific movement, *e.g.*, the lifting of the little finger, what is required is to compel those muscles to contract which by their combination produce this movement, and for that purpose to strike

with the will that chord in the keyboard of the brain, the single keys of which set the related muscles in motion. If in framing the chord one or more false keys are struck, there occurs a movement which does not correspond with the one intended; *e.g.*, in making a slip in speaking, mis-writing, tripping, in the awkward handling of children, &c. It is true the number of the central endings of fibres in the brain is considerably smaller than that of the motor fibres in the nerves, provision being made through the intervention of a peculiar mechanism, to be further mentioned in Chap. V., for the simultaneous excitation of many peripheral fibres by means of one central fibre. However, the number of different movements within the power of the conscious will, consequently dirigible by the brain, is, by means of a thousand little modifications of direction and combination, for each single limb sufficiently large—for the whole body, indeed, simply immeasurable; so that the probability would be infinitely small that the conscious idea of the lifting of the little finger should, without causal connection, coincide with the actual elevation. The mere mental representation of the lifting of the little finger cannot act on the central nerve-endings, since they have nothing to do with one another; the mere will, however, as motor impulse, would be absolutely blind, and therefore the striking of the right key would be left to pure chance. If there were no causal connection at all, practice could avail nothing; for nobody finds in his consciousness an idea or a feeling of this infinite number of central endings. Thus, if accidentally once or twice the conscious idea of the lifting of the finger should coincide with the executed movement, experience would have nothing to go upon; and on the third occasion when the man willed to raise his finger, the touch of the right key would be as much left to chance as in the former cases. It is, then, clear that practice can aid the linking of intention and execution only if there be a causal nexus between the two, in which case certainly the passage from one to the

other is facilitated by repetition of the process. The problem placed before us, then, is to find the causal nexus; without it practice would be an empty word. It is, besides, in most cases not at all necessary, namely, in the case of almost all animals, which run and leap just as well at the first attempt as after long practice. From this it follows, in the second place, that all attempts at explanation are unsatisfactory, which intercalate such a causal link as can only be perceived by the accidental association of idea and movement. The conscious muscular feeling preceding the intended movement, for example, which can only be acquired and imprinted on the memory by repetition, might perhaps suffice for explanation in the case of man, but not for the far larger part of natural existences, the animals, since before any experience of muscular feeling they execute with marvellous accuracy the most extensive combined movements agreeably to the conscious idea of the end. For instance, an insect just born correctly alternates its six legs, as if locomotion were nothing new to it, and a young brood of partridges, hatched by a domestic hen in the stable, invariably, in spite of all precautions, immediately and correctly employ the motor muscles of their legs to reconquer freedom for their parents, and know how to use their beaks for picking up and crushing any insect they meet with, as if they had already performed the operation a hundred times.

It might perhaps be thought that the cerebral vibrations answering to the conscious idea, "I will to lift the little finger," occur in that region of the brain where the nerves have their central terminations; this is, however, anatomically incorrect, since the conscious ideas have their seat in the cerebrum, but the motor nerve-endings are found in the medulla oblongata or cerebellum. Just as little can a mechanical propagation of the vibrations of the conscious representation to the nerve-endings afford an explanation of the touching the right keys. We should then be obliged to assume that the con

scious idea, "I will to move my little finger," is localised *elsewhere* in the cerebrum than the other conscious idea, "I will to move my fore-finger," and that each of the places in the cerebrum corresponding to a particular idea of any sort of movement to be executed stands, in virtue of an inherited mechanism, in intimate connection with the central ending of the motor nerves needed for realising these ideas, and with that alone. The consequences of this strange supposition would be stranger still; *e.g.*, the conscious idea, "I will to lift the five fingers of the right hand," would occur *simultaneously* in the five places of the cerebrum which are appropriated to the several ideas of the five liftings of the fingers; whereas one would be much more inclined to assume, that the ideas of willing to lift this or the other finger are distinguished in the material substratum of the brain rather by a small modification of the form of vibration than by definite localisation. Further, were it only the propagation of the molecular vibrations to the central endings of the motor nerves resulting from such a conscious idea, which sufficed for the performance of the movement, such a conscious idea as "I will to lift the little finger," should *always* call forth movement. With such a mechanism of fixed and isolated channels, not only would error be *impossible*, but also that indescribable impulse of the will would be superfluous, which, as experience teaches, must first *be added* to that conscious idea before an effect takes place. Lastly, where no mistake was possible, no increase of accuracy or certainty, as result of any influence whatever, would be conceivable; practice also could have no influence on the causal link between conscious idea and executed movement. This consequence, however, contradicts experience as much as the impossibility of error, and therefore discredits the hypothesis of a mechanical communication. Suppose, however, there really did exist such a mechanism, Materialism would be obliged further to assume that it is transmitted by inheritance, and was

gradually formed in our primitive ancestors by practice and habit. In this genetic theory, where a part of this mechanism comes into existence from time to time, the problem of a causal connection between conscious idea and execution of movement would again arise in the form in which we now have it—its possibility, to wit, *without the help* of an already existing mechanism for the given case. The theory of transmitting mechanisms would therefore only push our problem farther back, not *solve* it, and the *solution* given below would even then, if that theory were correct, be the only possible one.

Lastly, to return once more to the ascription of the muscular feeling of intended movement to the memory of earlier cases of casual association, this explanation is shown to be one-sided and insufficient, not only because at the best it could only claim to explain the possibility of exercise and perfection with an *already existing* causal connection, not the connection itself, but also because, in fact, it *does not even explain that*, but only pushes the problem one step farther back. Before it was not clear how the striking of the right brain-keys by the volitional impulse is to be effected through the idea of the lifting of the finger; now it is not clear, how this result is to be brought about by the idea of the muscular feeling in the finger and lower arm, since the one has as little to do with the position of the motor nerve-endings in the brain as the other, yet it is these which have to be affected if the right event is to take place. Of what direct use is an idea referring to the finger for the selection of the point to be excited in the brain by the will? That there exists an idea of the muscular feeling *sometimes*, but comparatively rarely, I do not at all deny; that if present it *may* be an important link in the chain terminating with movement, I just as little deny; but this I do deny, that for the comprehension of the sought-for union anything is gained by its intercalation,—the problem is only carried a little farther back. For the rest, this intercalation has the less importance, as

in the majority of cases where this muscular feeling at all exists prior to movement it exists *unconsciously*.

Let us once more gather up what we know concerning the problem, and the solution will press on us of itself. A will is given whose content is the conscious idea of the lifting of a finger, indispensable as means for executing a voluntary impulse at the fixed point P in the brain; required a method by which the voluntary impulse may strike precisely the point P and no other. The mechanical solution of a transmission of vibrations appeared impossible; practice before the problem was solved an empty, meaningless word: the interpolation of the muscular feeling as conscious causal middle term one-sided and no explanation. From the impossibility of a mechanical material solution it follows that the intermediate link must be of a spiritual nature; from the decided absence of a sufficient conscious link it follows that the same must be unconscious. From the necessity of a voluntary impulse at the point P it follows that the conscious will to lift the finger produces an unconscious will to excite the point P, in order, by means of the excitation of P, to attain the object, lifting the finger; and the content of the will to excite P, again, presupposes the unconscious idea of the point P (*cf.* Chap. iv. A.) The idea of the point P can, however, only consist in the idea of its position with reference to the other points of the brain, and herewith the problem is solved: "Every involuntary movement presupposes the unconscious idea of the position of the corresponding nerve-endings in the brain." Now also is it comprehensible how their dexterity is innate in the animals, the knowledge just spoken of and the skill to apply it being born with them, whilst man, in consequence of the immature and pulpy state of his brain at birth, only gradually, by long practice, succeeds in turning to good account his innate unconscious knowledge in accurate and powerful muscular innervation. It is now also intelligible how muscular feeling can sometimes appear as the con-

necting link. The excitation of this muscular feeling is related to the lifting of the finger as means to end, in such a way, however, that it is one step nearer to the idea of the excitation of the point P than the idea of the lifting of the finger. It is thus a medium which can be interpolated, but is better overleaped.

We may then regard it as established that every, even the slightest movement, whether due to conscious or unconscious intention, presupposes the unconscious idea of the appropriate central nerve-endings and the unconscious will to stimulate the same. We have accordingly made a great advance beyond the results of the first chapter. There (*cf.* pp. 68, 69) we only spoke of the relatively unconscious; there the reader was only to be accustomed to the thought that mental processes go on within him (as an indivisible spiritual-corporeal organism) of which *his* consciousness (*i.e.*, his cerebral consciousness) does not dream; here, however, we have come across mental events which, if they do not attain to consciousness in the brain, cannot certainly be conscious for the other nerve-centres of the organism: we have thus found something unconscious for the entire individual.

III.

THE UNCONSCIOUS IN INSTINCT.

Instinct is purposive action without consciousness of the purpose. No one would call Instinct purposive action accompanied by consciousness of the purpose, where therefore the action is a result of reflection; just as little a purposeless blind action, such as the furious outbursts of rabid or irritated animals. I do not think that the above definition can be objected to by those who assume the existence of instinct; but whoever thinks it possible to refer all actions usually called instinctive to conscious reflection does, in fact, deny instinct altogether, and ought accordingly to strike the word "instinct" out of his vocabulary. But of this later on.

First of all, assuming the existence of instinctive actions in the sense of the definition, they might be explained: (1.) As a mere consequence of corporeal organisation; (2.) as a cerebral or mental mechanism contrived by Nature; (3.) as a result of unconscious mental activity. In the first two cases the idea of purpose lies far back; in the last it immediately precedes action. In the first two an arrangement given once for all is used as means, and purpose is only once concerned in constituting this arrangement; in the latter, the end is imagined in every single case. Let us take the three cases in order.

Instinct is *not the mere result of bodily organisation*, for: (*a.*) *Instincts are quite different with similar bodily structures.* All spiders have the same spinning apparatus, but one kind constructs its web radially, another in an

irregular manner; a third does not construct a web at all, but lives in hollows, over the walls of which it spins, closing the entrance with a door. Almost all birds have essentially the same organisation for building nests (beak and feet), and how infinitely diverse are their nests in form, architecture, mode of fastening (standing, clinging, hanging), locality (caves, holes, corners, forked branches, shrubs, the ground), and excellence, how different often in the species of the same genus, *e.g.*, *Parus* (titmouse). Several birds do not build nests at all. Most birds with webbed feet swim, but some not, *e.g.*, upland geese, which seldom or never enter the water, or the frigate-bird, which is always hovering in the air, and which no one except Audubon has ever seen alight on the surface of the sea. Just as little do the different varieties of the song of birds depend on the difference in their vocal organs, or the peculiar architecture of bees and ants on their bodily organisation; in all these cases the organisation only capacitates for singing or building *in general*, but has nothing to do with the mode of execution. Sexual selection, likewise, has nothing to do with organisation, since the disposition of the sexual organs in any animal would be as well adapted for the members of numberless foreign species as for an individual of its own species. The nurture, protection, and training of the young can still less be considered dependent on the bodily structure. The same may be said of the place where the insect lays its eggs, or the selection of the spawn of their own kind on which the male fish discharge their seed. The rabbit burrows, but not the hare with similar organs for digging, but it less needs a subterranean place of refuge on account of its greater speed. Some birds that fly remarkably well are stationary birds (*e.g.*, kites and other birds of prey), and many moderate flyers (*e.g.*, swallows) take the longest journeys.

(*b.*) *The same instincts appear with different organisations.* Birds with and without climbing feet, monkeys with and without prehensile tails, squirrel, sloth, puma, &c., live

on trees. The Mole-Cricket burrows with the prominent fossorial organs of its anterior extremities, the Burying Beetle digs without any arrangement for the purpose. The Hamster carries in its winter stores with its cheek-pouches, 3 centim. long and 1½ centim. broad, the field-mouse does the same without any special apparatus. Birds live in the water just as well without as with web feet; at any rate, Divers (*Podiceps*) and Waders (*Fulica*) are excellent aquatic birds, although their toes are only fringed by a web. Birds with elongated tarsus and long unconnected toes are for the most part marsh-birds, but with the same structure of the feet the Moor-hen (*Ortygometra*) is almost as much an aquatic bird as the Water-hen, and the Crake (*Crex*) is almost as much a land-bird as the quail or the partridge. The migratory impulse is manifested with equal intensity by animals of the most different orders, and irrespective of the outfit with which they undertake their journey by water, land, or air.

It must accordingly be admitted that Instinct is in a high degree independent of bodily organisation. That a certain kind of bodily organisation is *conditio sine qua non* of its manifestation is a matter of course; for without sexual parts no procreation, without certain appropriate organs no artificial construction, without spinnerets no spinning; but in spite of this no one can say that organisation is the *cause* of instinct. The mere existence of an organ does *not* furnish *the slightest motive* for the exercise of a corresponding activity; for that there must be *at least* a feeling of pleasure in the use of the organ; this may then serve as motive to action. But even then, if the agreeable feeling affords an incentive to action, only the *that*, not the *how*, of this activity is determined by the organisation. The law of action, however, is precisely that which constitutes the problem to be solved. Nobody would call it instinct if the spider caused the secretion to flow from its over-filled spinning-glands in order to procure the satisfaction of the discharge, or

if the fish for the same reason simply discharged its seed into the water. The instinct and the marvel consist in this, that the spider spins threads and makes the threads into a web, and that the fish discharges its seed only on the eggs of its own species. Lastly, the agreeable sensation in the use of the organs is an altogether insufficient motive for the activity itself; for what is at once grand and awe-inspiring in instinct is, that its behests are obeyed with utter disregard of all personal well-being, even at the cost of life itself. Were merely the pleasant feeling of the emptying of the spinning glands the motive why the caterpillar spins, it would only continue to spin till its glandular sac was emptied, but it would not perpetually repair a continually destroyed web till it died of exhaustion. It is just the same with all other instincts, the causes of which are apparently personal pleasure. As soon as the circumstances are altered, so that in place of individual weal individual sacrifice occurs, their higher origin is unmistakably shown. Thus, *e.g.*, it might be said that birds tread for the sake of sexual enjoyment, but why then do they no longer repeat the treading when the proper number of eggs is laid? The sexual impulse indeed still exists, for, if an egg be taken from the nest, they recommence treading and the hen lays another egg, or, if they belong to the cleverer birds, they quit the nest and rear a fresh brood. A hen of *Iynex torquilla* (Wryneck), whose deposited egg was continually removed from the nest, kept on laying, each egg being smaller than the preceding, until at the twenty-ninth egg the bird was found dead in the nest. If an instinct does not stand the test of a sacrifice imposed at the cost of individual well-being, if it really merely proceeds from the endeavour after bodily pleasure, it is not true instinct, and can only be so deemed by mistake.

Instinct is not a cerebral or mental mechanism implanted by Nature, so that the instinctive action could be executed without individual (if also unconscious) mental activity

and without an idea of the purpose of the action, after the manner of a machine,—the end being conceived once for all by Nature or a Providence, which had so contrived the psychical organisation that only a mechanical use of the means remained to the individual. The suggestion now is, that a psychical, not a physical, organisation is the cause of instinct. This explanation would be at once acceptable, if any instinct appertaining to an animal *were functional without intermission.* This is not true, however, of any instinct, for each waits upon a motive; which, according to our view, signifies the occurrence of appropriate external circumstances making possible the attainment of the end by those means which instinct wills; not till then is instinct functional as actual will, with action at its heels; before the motive is present, instinct remains latent, as it were, and is not functional. The motive appears in the mind in the form of sensuous presentation, and the connection is constant between the active instinct and all sense-perceptions, which indicate that the opportunity has arrived for the attainment of the purpose of the instinct. The psychical mechanism would accordingly have to be sought in this constant connection. We should again have to imagine a sort of keyboard; the struck keys would be the motives, and the resounding notes the functional instincts. This might be satisfactory in spite of the remarkable fact that keys altogether different give out the same sound, if only instinct were really comparable to definite tones, *i.e*, if one and the same instinct really always reacted in one and the same way on the appropriate motives. This, however, is not the case, but the only constant element is the unconscious *purpose* of the instinct; the instinct itself, however, like the willing of the *means*, varies just as much as the means to be appropriately applied vary according to the external circumstances. An hypothesis which rejects the unconscious idea of the end in each single case is accordingly condemned; for if it were desired to retain in

addition the idea of this mental mechanism, for every variation and modification of the instinct a special constant arrangement according to external circumstances, a new key with a tone of another timbre would have to be inserted, whereby the mechanism would be infinitely complicated. That, however, with every variation in the means selected by instinct the end is constant should be a sufficiently clear indication, that such an endless mental complexity is not needed, but in lieu thereof the unconscious representation of an end is all that need be assumed.

Thus, *e.g.*, for the bird which has laid its eggs, the constant end is to hatch the chickens; accordingly, if the external temperature is insufficient, it sits upon them, a proceeding omitted only in very warm countries, because the animal sees the goal of its instinct attained without its assistance. In warm countries many birds only brood by night. With us, too, if by chance small birds have made their nests in hot forcing-houses, they sit but little or not at all. How repugnant is the supposition of a mechanism which constrains the bird to brood as soon as the temperature falls below a certain degree; how simple and clear the assumption of an unconscious purpose which compels the willing of the appropriate means, but of which process only the final term, as a will immediately preceding action, comes into consciousness! In South Africa the sparrow begirds its nest with thorns as a protection against snakes and apes. The eggs laid by the cuckoo always resemble in size, colour, and marking the eggs of the nest wherein they are laid; *e.g.*, in that of *Sylvia rufa*, they are white with violet spots; of *Sylvia hippolais*, rose-coloured with black spots; of *Regulus ignicapellus*, dark red; and the resemblance is so perfect that the eggs are scarcely to be distinguished save by the structure of the shell. And yet Brehm enumerates some fifty species of birds in whose nests cuckoos' eggs were found (Illustrirtes Thierleben, vol. iv. p. 197). Only through an oversight, when the cuckoo is

surprised, is an egg ever deposited in a wrong nest, as well as occasionally left to perish on the ground, if the mother was unable to find a suitable nest at the right time.—Huber by special contrivances prevented bees from carrying on their instinctive mode of building from above downwards, whereupon they built from below upwards, and even horizontally. Where the outermost cells are attached to the roof of the hive or lean against the wall, the prisms, which are agglutinated together by their base alone, are not hexagonal but pentagonal, for more durable fastening. In autumn bees lengthen the existing honey cells, if there are not enough of them; in spring they shorten them again in order to obtain broader passages between the combs. If the honeycombs have become too heavy, they replace the waxen walls of the highest (supporting) cells by thicker ones, formed of wax and propolis. If working-bees are introduced into the cells destined for drones, the workers apply the corresponding flat rooflets instead of the round ones belonging to the drones. In the autumn they regularly kill the drones, but allow them to live if the queen is lost, that they may impregnate the young queen which is to be reared from the larvæ of female workers. Huber observed that they barred the entrance of their hive against raids of hawk-moths with artificial constructions of wax and propolis; they only carry in propolis when they want to make any improvements or for special purposes. Spiders and caterpillars also show a remarkable skill in repairing their ruined web, which is quite a different kind of work from the first manufacture of a web.

The examples cited, which might be indefinitely added to, sufficiently prove that instincts are not actions mechanically performed in accordance with fixed rules, but that they are rather very closely adapted to circumstances, and are capable of such great modifications and variations, that they sometimes seem to be converted into their opposites. Many will be inclined to ascribe this modification to *con*

scious reflection on the part of the animals; and certainly in animals more highly endowed in most cases a combination of instinctive activity and conscious reflection is not to be denied. However, I believe that the examples adduced satisfactorily prove that there are also many cases where, without any intervention of conscious reflection, the ordinary and extraordinary actions arise from the same source; that they are either both true instinct or both results of conscious reflection. Or is it really a different power which causes the bee to build in the middle hexagonal, at the edge pentagonal prisms; which leads the bird to brood over its eggs in the one set of circumstances, and not to brood in the other set; which causes the bees now pitilessly to murder their brethren, now to give them their life; which teaches birds the architecture of their species and their special measures of precaution; which leads the spider to spin its web, and mend it when injured? If it be granted that the modifications of instinct, together with its most usual fundamental form, which is often quite *indeterminable*, spring from a single source, then the allegation of conscious reflection is self-refuted later on, where the same objection is brought against instinct in general. It may, perhaps, not be improper to anticipate here the conclusion of a subsequent chapter, namely, that instinct and organic formative activity contain one and the same principle, only manifested under different circumstances, and that they shade into one another without any definite boundaries. Admit this, and it is evident that instinct cannot depend on the organisation of the body or of the brain, since it would be much more correct to say that organisation arises through a manifestation of instinct. This, however, only by the way.—

On the other hand, we have now to direct our attention again more closely to the notion of a psychical mechanism, when it will appear that, apart from the fact that it explains very little, it is so obscure that it hardly

conveys any idea at all. The motive appears in the mind in the form of a conscious sensuous presentation. This is the first term of the process; the last term appears as conscious will to some particular action. Both, however, are quite heterogeneous, and have nothing in common with ordinary motivation, which consists exclusively in this—that the idea of pleasure or displeasure begets the desire to attain the former and avoid the latter. In instinct, pleasure, for the most part, appears as a concomitant phenomenon, although, as we have already seen, it is not at all necessary; but the full power and grandeur of instinct is only shown in the *sacrifice* of the individual. But the real problem is here a far deeper one, for every *idea* of a pleasure presupposes that this pleasure has been already *experienced.* It follows again from this that in the former case a will was present, in the satisfaction of which pleasure consisted, and whence the will comes *before* the pleasure is known, and without a bodily pain, as in the case of hunger, urgently demanding relief, is the very question, since one may see in the case of any solitary animal that the instinctive impulses appear before it can have got to know the pleasure of their satisfaction. In instinct there must, therefore, be a causal connection between the sensuous presentation which serves as motive and the will to act instinctively, with which the pleasure of the satisfaction that follows has nothing to do. This causal connection, as we know from our human instincts, does not enter experientially into consciousness; consequently, if it is to be styled a mechanism, it can only be either a (non-conscious) mechanical conduction and conversion of the vibrations of the presented motive into the vibrations of the willed action in the *brain*, or an unconscious *mental* mechanism. In the first case, it would be very wonderful that this transaction should remain unconscious, since the process is so powerful that the will resulting from it overcomes all other considerations, every other will, and such cerebral vibrations always become conscious.

It is also difficult to form an idea of the way in which this conversion could take place, so that the end set up once for all should be attained by the resulting will with the varying circumstances. If the other case,—an unconscious mental mechanism,—be assumed, the process cannot well be conceived under any other form than that which holds good of mind in general, thinking and willing. Between the conscious motive and the will to the instinctive action a causal connection has to be imagined by means of unconscious ideation and volition, and I know not how this connection can be *more simply* conceived than by represented and willed *purpose.* We have now reached the mechanism peculiar to mind, and immanent of *Logic,* and have found *the unconscious idea of purpose* to be the indispensable link *in the case of each single instinctive action.* Accordingly, the notion of a dead, external, preordained mental mechanism is abolished of itself, and changed into the immanent mental life of Logic ; and we have reached the only remaining mode of conceiving a real instinct: *Instinct is conscious willing of the means to an unconsciously willed end.* This conception explains in an unforced and simple way the whole problem offered by instinct, or, more correctly, in thus declaring the true nature of instinct everything problematical vanishes. In a separate essay on Instinct, the notion of unconscious mental activity, as yet unfamiliar to our educated public, would perhaps arouse opposition ; but here, where in each chapter new facts are adduced, proving the existence of this unconscious mental activity and its striking significance, any scruple due to the novelty of this thought will be evanescent.

Although compelled decidedly to reject the notion that instinct is merely the action of a pre-arranged mechanism, I did not at all intend to exclude the supposition of constitutional tendencies of the brain, of the ganglia, and of the body as a whole, determining the nervous current *more easily and more conveniently* into *one* channel rather than into *another.* This predisposition is then either a

result of habit, graving its lines deeper and deeper, and at last leaving indelible traces behind it, either in the special individual or by inheritance in a series of generations, or it is expressly called forth by the unconscious formative impulse, in order to facilitate action in a particular direction. The latter case will have more application to the external organisation—*e.g.*, the weapons and working implements of animals—the former more to the molecular constitution of brain and ganglia, especially in respect to the ever-recurring fundamental power of instinct—*e.g.*, the hexagonal form of the cell of the bee. We shall see later on (B. Chap. iv.) that the sum of individual modes of reaction on all possible kinds of motives is called the individual character, and (C. Chap. xi. 2) that this character is essentially dependent on a constitution of brain and body in lesser degree acquired by the individual by habit, in greater part inherited. Since, now, in the case of instinct, we have to do with a mode of reaction on certain motives, we may speak here too of character, although we are not so much concerned with the character of the individual as of the race. Accordingly, in the case of character in respect of instinct, the question is not how one individual is distinguished from another, but how one animal class is distinguished from another.

If such a predisposition of brain and body for certain active tendencies be called a mechanism, in a certain sense that may be allowed to pass; but it should be remarked: (1.) that all deviations from the customary form of any instinct, so far as they cannot be ascribed to conscious reflection, are *not* specifically provided for in this mechanism; (2.) that *inheritance* is only possible through the continual guidance of the embryonic development by a well-adjusted unconscious formative activity (certainly again influenced by the predispositions given in the germ); (3.) that the engraining of the tendency in the transmitting individual could only take place by long habituation

to the same mode of action, accordingly *instinct without auxiliary mechanism is the cause of the origin* of the auxiliary mechanism; (4.) that all instinctive actions which only occur rarely or merely *once* in the lifetime of an individual (*e.g.*, those relative to propagation and metamorphosis in the case of the lower animals, and all such instinctive forbearance when a contrary effect would be followed by death) cannot well be engrained by habit, but a ganglionic constitution predisposing thereto could only be produced by purposive creation; (5.) that even the ready-made auxiliary mechanisn does not precisely *necessitate*, but merely *predisposes* the Unconscious to this particular instinctive action (as is shown by deviations from the type), so that the unconscious purpose always remains stronger than the ganglionic predisposition, and only finds occasion to choose among the means lying ready to hand those nearest and most suitable to the constitution.

We now approach more closely the question we have reserved to the last: "Is there such a thing as a true instinct, or are the so-called instinctive actions only results of conscious premeditation?" In favour of the latter hypothesis there might be cited the well-known experience that the more limited the range of the conscious mental activities of any being, the stronger is wont to be the executive faculty in the particular limited direction relatively to the extent of the total capacity. This experience, frequently confirmed in the case of man, and certainly applicable to animals also, finds its explanation in the circumstance that the degree of this performance is only in part dependent on the mental structure, in part also, however, on the exercise and improvement of the natural disposition in this special direction. Thus, *e.g.*, a philologist is unskilful in legal processes of thinking, a naturalist or mathematician in philological, an abstract philosopher in poetic invention, quite apart from special talent, solely in consequence of one-sided mental cultivation and practice. Now the narrower the sphere of the

mental activity of any being, the more is the whole culture and training concentrated in this single direction, consequently it is no wonder that the resulting performances in this line are enhanced through the narrowing of the field of view *relatively to the total capacity.* But if this phenomenon be used to explain the action of instinct, the limitation "relatively to the total capacity" must not be left out of sight. Since, however, the lower the rank in the animal scale the less the total capacity, and yet the instinctive performances remain in respect to perfection tolerably equal at all stages of the animal kingdom, whereas those effects which unquestionably proceed from conscious reflection are manifestly proportional to the mental capacity, it seems to follow that in the case of instinct we have to do with some other principle than conscious understanding. We further see that the conscious performances of animals are in fact similar in kind to our own; that they are made possible through teaching and instruction and are perfected by exercise. Even in the case of animals it is said understanding only comes with years. On the other hand, in the case of instinctive actions, the peculiarity is just this, that they are performed just as perfectly by animals growing up in solitude as by such as have enjoyed the instruction of their parents, and that the success is as great on the very first occasion, prior to all experience and exercise, as at any later period. Here too, the difference in principle is unmistakable. Then experience teaches: the more limited and weak an understanding, the more sluggish the flow of ideas, *i.e.*, the slower and heavier its conscious thinking. This is illustrated both by human beings of different mental grasp and by the brutes, so far as instinct does not come into play. But instinct has this peculiarity, that it never delays and hesitates, but instantaneously operates, if the motive for its operation consciously occurs. This rapidity of resolution in instinctive action is met with alike in the lowest and in the highest animals. This is another

circumstance pointing to a difference in principle of instinct and conscious reflection.

Lastly, as concerns the pitch of performance, a hurried glance at once detects the want of proportion between the same and the stage of mental development. Look at the caterpillar of the Emperor Moth (*Saturnia pavonia minor*). It devours the leaves of the shrub whereon it was hatched; at the most, moves when it rains to the underside of the leaf, and changes its skin from time to time; that is its whole life, which hardly allows one to look for even the most limited education of the intelligence. But now it spins its cocoon for the chrysalis state, and constructs for itself a double arch of bristles meeting at their apices, very easy to open from within, but which opposes on the outside sufficient resistance to any attempts to penetrate into it. If this contrivance were a result of its conscious understanding, it would require the following train of thought: "I shall enter the chrysalis state, and, immovable as I am, be at the mercy of every adversary; therefore I will spin myself a cocoon. Since, however, as butterfly I shall not be able to make a breach in the web either by mechanical or chemical means as many other caterpillars do, I must leave an aperture for egress; but that my persecutors may not make use of it, I shall close it with elastic bristles, which I can easily bend apart from the inside, but which will offer resistance externally, according to the theory of the arch." That is really asking too much of the poor caterpillar! And yet each step of this argumentation is indispensable if the result is to be correctly got at.

This theoretical discrimination of Instinct from the conscious activity of the understanding could easily be misinterpreted by the opponents of my way of regarding the matter, as if I asserted a wide gulf to exist between the two in practice likewise. The latter, however, is by no means my opinion; on the contrary, I have already pointed to the possibility of both kinds of psychical activity

being combined in different proportions, so that through their intermixtures in different degrees, there occurs a gradual transition from pure instinct to pure conscious reflection. We shall, however, see later on (B. Chap. vii.) that even in the highest and most abstract rational activity of the human consciousness there are certain factors of the highest importance, which essentially agree with that of instinct.

On the other side, however, the most wonderful manifestations of instinct not only occur in the vegetable kingdom (as we shall see in C. Chap. iv.), but also in those lowest organisms of the simplest structure, in part unicellular, which in any case stand far below the higher plants in conscious intelligence, but to which such a power is usually denied. If in such microscopic unicellular organisms, in respect of which the question whether they are of animal or of vegetable nature is devoid of meaning, we must admire instinctive adjustments which far exceed merely reflectorially stimulated movements, then every doubt must be laid to rest, whether there really exists an instinct, the derivation of which from conscious rational activity appears radically hopeless. I adduce as an example a recently observed phenomenon, which is perhaps more astonishing than anything previously recognised, because the problem is therein solved of accomplishing, with incredibly simple means, various ends to which in higher animals a complicated system of motor organs is subservient.

Arcella vulgaris is a lump of protoplasm in a concavo-convex, brown, finely perforated shell, from the concave side of which it protrudes through a circular opening, by means of processes (pseudopodia). If a drop of water, containing living arcellæ be observed through a microscope, a specimen may usually be seen accidentally lying on its back at the bottom of the drop of water, making vain efforts for one or two minutes to grasp a firm point with its pseudopodia. Then there suddenly appear generally

from two to five, sometimes even more, dark specks in the protoplasm at a mean distance from the periphery, and usually at regular intervals from each other, which are quickly enlarged to distinct spherical air-bubbles, and at last fill a respectable part of the hollow of the shell, thereby thrusting out a portion of the protoplasm. The number and size of the several bubbles are in inverse proportion. After five to twenty minutes the specific gravity of the Arcella is so far reduced that the animalcule, lifted from the water by its pseudopodia, is carried towards the upper surface of the drop, on which it now walks. Then after five to ten minutes the bubbles disappear, the last little speck by jerks, as it were. If, however, as the result of an accidental twist, the Arcella comes up to the surface of the drop, the vesicles continue to grow, but only on one side, becoming smaller on the other; in consequence of which the shell assumes a position more and more oblique, and at last vertical, until finally one of the processes takes firm hold, and the whole turns over. From the moment that the animal gains a firm footing the vesicles become smaller, and the experiment may be repeated as often as it pleases after their disappearance. The places of the protoplasm which form the bubbles continually change; the non-nucleated protoplasm of the pseudopodia alone does not contain air. With longer fruitless endeavours there occurs visible exhaustion; the animal abandons the attempt for a time, and renews it after a pause for refreshment. Engelmann, the discoverer of this phenomenon, says (Pflüger's Archiv für Physiologie, vol. ii.): "The changes of volume usually take place in all air-bubbles of the same animal simultaneously, in the same way and in the same degree. There are, however, not a few exceptions. Frequently some grow or diminish much quicker than others. It may even happen that one air-bubble becomes smaller while another increases. *All these changes are throughout perfectly adapted to their end.* The formation and growth of the air-bubbles has for object

the bringing the animal into such a position that it can maintain itself by means of its pseudopodia. When this end is attained the air disappears, without our being in a position to discover any other reason for this disappearance. . . . If these circumstances be taken note of, it is possible, with almost complete certainty, to foretell whether an Arcella will develop air-bubbles or not, and, in case gas-bubbles are already in existence, whether they will expand or become smaller. . . . In the power of changing their specific gravity the Arcellæ possess a remarkable expedient for rising to the surface of the water or for settling at the bottom. They not only avail themselves of these means under the abnormal circumstances in which they find themselves during microscopic investigation, but also under normal circumstances. This is concluded from the fact that at the surface of the water, where they live, a few specimens are always found to contain air-bubbles."—

Those whom the foregoing instances do not constrain to reject the explanation of instinct by conscious reflection must admit the demonstrative force of the following highly important testimony of facts. Thus much is certain, that the reflection of conscious understanding can only take into account such data as are given in consciousness; if, then, it can be definitely proved that data *indispensable* for the result *cannot possibly be consciously known*, it is thereby proved that the result cannot spring from conscious deliberation. The only way, according to the common assumption, whereby the knowledge of external facts can be obtained is sensuous perception; we have then to show that knowledge indispensable to the result cannot possibly be obtained by means of sensuous perception. The following are the points to be proved: Firstly, that the facts in question belong to the future, and all data are wanting in the present circumstances wherefrom to infer their occurrence in the future; secondly, that the facts in question do indeed exist at the present

time, but are manifestly closed to conscious apprehension by the circumstance, that only the experience of former cases can supply material for the interpretation of the data afforded by sensuous perception, and this experience, so observation shows, is excluded. It would make no difference, as far as our argument is concerned, if, as I hold to be probable, in the progress of physiological knowledge, all examples about to be cited for the first case should turn out to belong to the second, as has undeniably happened with many examples formerly adduced. For an *à priori* knowledge without *any* appulse from the side of sense is hardly to be called more wonderful than a knowledge which is evinced, indeed, *on occasion* of certain sensuous perceptions, but can only be conceived to be connected therewith by such a chain of inferences and applied knowledge, that its possibility must be decidedly denied in the state of the faculties and development of the particular animals.—An example of the first case is afforded by the instance of the larva of the Stag-beetle in digging for itself a suitable cavity, on occasion of passing into the chrysalis state. The female larva digs a hole as large as itself; the male, however, though of the same size, one as large again, because the horns which will hereafter be developed are about the length of the animal. The knowledge of this circumstance is indispensable to the result, and yet every indication is wanting at the time whereby to infer this future event. The following is an example of the second case:—Ferrets and buzzards fall upon blind-worms or other non-poisonous snakes without more ado, and seize them just as they come in their way; the adder however, even if they have never seen one before, they grasp with the greatest circumspection, and try first of all to crush its head, in order to avoid being bitten. Since there exists nothing else capable of inspiring fear in the adder, if this behaviour is to proceed from conscious reflection, the conscious knowledge of the dangerous char

acter of its bite is indispensable. But now, as this can only be gained by experience, and yet the same precaution is observed by animals that have been kept in confinement from their birth, it cannot proceed from reflection. On the other hand, there evidently follows from these two examples the fact of an unconscious cognition of particular circumstances, the existence of an immediate knowledge without the intervention of sensuous perception and consciousness.

This has always been recognised and indicated by the words fore-feeling and presentiment. But, on the one hand, these terms have reference only to the future, not to that which exists at the present time but is imperceptible owing to its remoteness; on the other, they denote only the slight, vague, undefined resonance in consciousness of the unerring and sure state of unconscious knowledge. Accordingly, the word *fore-feeling* is appropriate so far as vagueness and indefiniteness are suggested, whilst at the same time it is easy to see that no mere feeling devoid of all, even unconscious ideas, can have any influence on the result, but only a mental representation, since this alone contains knowledge. The presentiment reverberating in consciousness may certainly, in certain circumstances, be tolerably distinct, so that among human beings it can be fixed in thoughts and words; but even in man, as our experience teaches us, this is not the case with the instincts proper, for in their case the resonance of unconscious knowledge in consciousness is mostly so weak, as to be actually expressed only in accompanying *feelings* or *moods*, and to form only an infinitely small fraction of common feeling. That such an obscure sympathy on the part of consciousness is quite insufficient to give the cue to conscious reflection is evident. On the other hand, it is also clear that conscious reflection would be superfluous, since the particular rational process must have been already unconsciously performed; for every vague presentiment in consciousness is only the consequence of a

definite unconscious knowledge, and the knowledge, of which we are here speaking, is almost always the idea of the purpose of the instinctive action, or one closely connected therewith. *E.g.*, in the case of the larva of the Stag-beetle, the aim is to have room for the two sprouting horns; the means, to procure room by excavation; the unconscious perception, the future growth of the two horns. Lastly, all instinctive actions give the impression of *absolute certainty* and *self-assurance*, and there never occurs in them, as in conscious resolution, any *delay, doubt*, or *hesitation*, never (as will be shown in C. Chap. i.) any genuine *error*, so that one cannot possibly ascribe to the obscure nature of the presentiment such an *invariable precise* result; indeed this feature of absolute accuracy is so characteristic, that it may pass for the only clear defining mark of action from instinct when compared with action from conscious reflection. From this, however, it again follows that a principle altogether different from that which underlies conscious action must be at the bottom of instinct, and that can only be found in the determination of the will by a process lying in the Unconscious, for which this character of undoubted self-assurance is claimed in *all the following inquiries.*

Some may be surprised that I have ascribed to instinct an unconscious knowledge, produced by no sensible experience, and yet unerring; but this is no consequence of my view of Instinct, but rather a strong support of this view, derived directly from the facts. Accordingly we cannot be spared the trouble of considering a number of examples illustrative of this point. In order to be able to use a single word for the unconscious knowledge, which has not been acquired by way of sensuous perception, but is met with as an immediate possession, I shall (as "presentiment," for the reasons assigned, is not suitable) employ the term "clairvoyance," which, it must be clearly understood, will here only have the force of the given definition.

Let us now consider in order a few examples from the

instincts of fear of enemies, appetence, the migratory impulse, and propagation.—Most animals know their natural enemies before any experience of their hostile intentions. Thus a flock of young pigeons becomes alarmed, even without an older guide, and scatters if a bird of prey approaches. Oxen and horses, indigenous in regions where there are no lions, no sooner scent a nocturnal prowler than they become restless and anxious. Horses, on crossing a bridle-path which ran past the old house of the beasts of prey of the Berlin Zoological Garden, were wont to become terrified and restless on scenting their wholly unknown enemies. Sticklebacks swim quietly about among the rapacious pikes, which do not attempt to attack them; for if by oversight a pike ever actually attempts to swallow a stickleback, the latter with its projecting dorsal spines sticks in his throat, and the pike must infallibly die of hunger; accordingly cannot transmit his painful experience to posterity. The foresight of the ferret and buzzard in regard to adders has been already mentioned; similarly it was observed that a young Honey-buzzard, on being presented with its first wasp, only devoured the animal after it had crushed the sting out of its body. In some countries the people live chiefly on dog's flesh. Dogs in the presence of these people are said to become quite wild and ungovernable, as if they recognised in them foes whom they would like to attack. This is the more remarkable, as dog's fat outwardly applied (*e.g.*, rubbed on the shoes), attracts dogs by its smell. A young chimpanzee, at the first sight of a gigantic snake, was observed by Grant to fall into the greatest alarm; and even among us human beings, too, it is not so rare for a Gretchen to spy out a Mephistopheles. Very remarkable is it that the insect Bombex attacks and slays a Parnope wherever it finds one, without making any use of the corpse. We know, however, that the latter lies in wait for the eggs of the Bombex, and is therefore the natural foe of its race. The phenomenon well known

to the tenders of oxen and sheep as "the goading of cattle by the gadfly" furnishes analogous evidence. If a "breeze" or gadfly approaches a herd, the latter become quite wild and run hither and thither in confusion as if beside themselves, because the hatched larvæ from the eggs of the fly deposited on their hide penetrate the skin and cause painful festerings. These gadflies, which have no sting, very much resemble the stinging gadflies, and yet the latter are but slightly, the former extremely, feared by cattle. As the consequences of the painless deposition of the eggs only make their appearance after a considerable lapse of time, a conscious inference of the connection cannot be assumed.

No animal, whose instinct has not been killed out by unnatural habits, eats poisonous herbs; even the ape, spoiled by residence among men, may with safety be employed in the primitive forests as a fruit-taster, as it rejects with a cry the poisonous fruits which are offered it. Every animal chooses just those vegetable or animal substances for its food which suit its digestive organs, without having received any instruction on the matter, even without a previous use of the organ of taste. If now it must certainly be assumed that smell, and not sight, is the critical organ for the discrimination of materials, still it is no less enigmatical how the animal recognises that which suits its digestion by odorous rather than by visual impression. Thus the kid cut from the womb by Galen enjoyed milk alone of all the proffered food and drink, refusing to touch aught else. The Hawfinch splits the cherry-stone by turning it in such a way that the beak exactly hits the suture, and it does this as well with its first cherry-stone as with its last. Finches, martens, and weasels make little holes on the opposite side of the egg about to be drained of its contents, that the air may rush in and facilitate suction. Animals not merely know their proper food, but also often seek appropriate remedies with correct personal diagnosis and unacquired therapeutic

knowledge. Thus dogs often eat a good deal of grass, especially couchgrass, when they are sick; as, for instance, according to Lenz, when they are afflicted with worms, which are evacuated enveloped in the undigested grass, or if they want to remove splinters of bone from their stomach. They make use of thorny rest-harrows as laxatives. Fowls and pigeons pick lime from walls and roofs if their food does not afford enough lime to form egg-shells. Little children eat chalk when they have heartburn, and pieces of charcoal if they suffer from flatulence. We also find, under certain circumstances, these special nutritive or curative instincts in adult human beings when unconscious nature gains the upper hand, *e.g.*, among the pregnant, whose capricious appetites probably make their appearance, when a certain state of the fœtus renders a particular composition of blood desirable. Field-mice bite out the germs of the gathered grain, that they may not sprout in winter.

A few days before the coming of cold weather the squirrel gets in its stores most diligently, and then closes its dwelling. The birds of passage go from our regions to warmer lands at a time when they have no lack of food, and when the temperature is considerably higher than at the period of their return: the like holds good of the time when animals go into winter quarters, which beetles frequently do in the warmest days of autumn. When swallows and storks find their way home again, travelling hundreds of miles over lands totally different in appearance, it is ascribed to the keenness of their sense of locality; but when pigeons and dogs, after having been turned round twenty times in a sack and carried off to an unknown region, nevertheless run home in a straight line, no one can say anything more than that their instinct has guided them, *i.e.*, the clairvoyance of the Unconscious has enabled them to divine the right path. In years when there will be an early winter, most birds of passage begin to make preparations for their departure sooner than usual. If a

very mild winter is imminent, many species do not depart at all, or migrate only a short distance southwards. If a severe winter occurs, the tortoise makes its winter abode deeper. If grey geese, cranes, &c., soon withdraw from the spots in which they had made their appearance at the beginning of spring, there is a prospect of a hot and dry summer, when the deficiency of water in those places would render breeding impossible to marsh and water birds. In years when floods occur, the beaver builds its dwelling higher; and in Kamtchatka, when a flood is imminent, the field-mice suddenly withdraw in a body. If a dry summer is approaching, in April or May spiders weave their pensile toils several feet in length. When in winter house-spiders run to and fro, boldly contend with one another, construct new and numerous webs one over another, cold will set in in from nine to twelve days; on the other hand, if they conceal themselves, there will be a thaw.

I do not by any means doubt, that many of these precautionary measures in view of future states of the weather are conditioned by a sensitive appreciation of certain present atmospheric states, which escape our notice; these perceptions, however, invariably have reference only to present states of the weather, and what can the conscious common sensations produced by the present state of the weather have to do with the idea of the future weather? Surely no one will credit the animals with the power of *calculating* the weather months in advance from meteorological indications, and with the faculty of foreseeing floods. A mere feeling of this kind of present atmospheric influences is nothing more than the sensuous perception which serves as motive, for a motive must, indeed, always be present if an instinct is to become active.[1] Nevertheless, it is certain that the

[1] When such a motive in the form of an actual perception is entirely wanting, there is wanting also the occasion for the manifestation of the premonitory instinct. Thus, *e.g.*, when birds of passage at the usual time leave their winter quarters for the far north, they may on their

prevision of the state of the weather is a case of unconscious clairvoyance; the stork departing for the south four weeks earlier than is customary, *knowing* as little as the stag, which, when a cold winter is at hand, allows a thicker skin than usual to grow. Animals have in their consciousness a feeling of the present state of the weather; on this their action follows precisely *as if* they had the idea of the future state of the weather. They do not, however, possess the latter idea in their consciousness. Accordingly, there only remains as natural connecting link the unconscious idea, which, however, is always a clairvoyant intuition, because it contains something which is neither directly given to the animal by sense-perception, nor can be inferred from the perception through its powers of understanding.

Most wonderful of all are the instincts relating to the propagation of the race. Every male discovers the female of its species with a view to sexual union, but certainly not guided merely by outward resemblance to itself; for in many kinds of animals,—*e.g.*, hermit-crabs,—the sexes are so radically different in form, that the male would in that case be led to copulate with the females of thousands of other species rather than with those of its own. In some butterflies there exists a polymorphism, according to which not only male and female are distinct, but even in the female sex itself there occur two quite distinct forms of the same species, of which one commonly belongs to the natural mimicry of a remote and well-protected species. And yet the males have intercourse only with the females of their own species, never with strangers which perhaps bear a closer resemblance to themselves. In the insect-order Strepsiptera the female is an ill-shaped worm, which dwells all its life long in the posterior segment of the body of a wasp, and only protrudes with its lenticular horny

arrival suffer distress by an unusually late spring, of which, of course, in a spot many hundreds of miles away, they could not have had even the slightest intimation through atmospheric influences.

head between two abdominal rings of the latter. The male, which lives only a few hours, resembling a moth in appearance, recognises its female by this stunted protuberance, and fecundates the eggs through a canal opening immediately below the animal's mouth.

Before any experience of the significance of childbearing, the pregnant animal is impelled to seek seclusion, in order to prepare a couch for its young in a cave or other sheltered spot; the bird builds its nest as soon as the eggs mature in the ovary. Land-snails, crabs, tree-frogs, toads, enter the water, marine tortoises go upon land, many sea-fish ascend rivers, to lay their eggs where the fit conditions of their development are alone to be found. Insects lay their eggs in very various places—in the sand, on leaves, under the skin and nails of other animals, often in places where the future food of the larva is not yet in existence, *e.g.*, in the autumn on trees which do not sprout till the spring, or in the spring on blossoms which only bear fruit in autumn, or on caterpillars, which only in the pupa-state serve as food and protection to the parasitic larvæ. Other insects lay their eggs in places, whence they are conveyed to the proper place of their development by many circuitous courses, *e.g.*, certain gadflies on the lips of horses, others on those parts which horses are wont to lick, whereby the eggs pass into the entrails as their place of development, and when matured are voided with the ordure. The bovine gadflies select the most powerful and soundest animals with such accuracy, that cattle-dealers and farmers entirely rely upon them, and take by preference the animals whose skins show most traces of being the pasture of the gadfly's grubs. This selection of the best oxen by the gadflies can scarcely be the result of conscious trial and reflection, when experienced traders take them for their masters. The wall-wasp makes a hole in the sand several inches deep, deposits its egg in the same, and packs in a layer of footless green maggots approaching the pupa-state, there-

fore well nourished and able to live a long time without food, but so close together that they cannot stir nor enter the pupa condition themselves, and just as many, and no more, as the larva will require before its transformation into a chrysalis. A species of wasp, *Cerceris bupresticida*, which itself only lives on pollen, places by the side of each of its eggs, preserved in subterranean cells, three specimens of the genus Buprestis, which it becomes possessed of by lying in wait for them when they emerge from the chrysalis condition, and then slaying them in their weak condition, at the same time seeming to apply a juice which keeps them fresh and suitable for food. Several species of wasps open the cells of their larvæ as soon as these have consumed their food, in order to replenish them, and then close them again. In a similar way ants constantly choose the right moment when their larvæ are ripe for hatching in order to open for them the cocoon, from which they could not free themselves. What, now, does an insect, whose life in the case of but few species endures longer than for one deposition of eggs, know of the contents and the favourable place for the development of its eggs? what does it know of the kind of nutriment which the hatched larvæ will need, and which is quite different from its own? what does it know of the quantity of food which is needed? what *can* it know, *i.e.*, have in its consciousness, of all this? And yet its action, its efforts, and the high importance which it attributes to these things, prove that the animal has a knowledge of the future. It can then only be unconscious clairvoyance; and no less certainly must it be clairvoyance which arouses in animals just at the right moment the will to open the cells or the cocoon, when the larvæ have finished their stock of food, or are ripe for hatching.

The cuckoo, whose eggs, as is the case with other birds, do not need one or two, but seven to eleven days to mature in the ovary, which therefore cannot itself hatch its eggs, because the first would be rotten before the last

was laid, deposits them in the nests of other birds, of course only one egg in each nest. But in order that the birds may not perceive and reject the strange egg, it is not only much smaller than one would expect from the size of the cuckoo, because the latter only finds its opportunity with small birds, but also, as has been mentioned, it is strikingly like the other eggs of the nest in colour and marking. Now, as the cuckoo prefers to seek out a nest in which to deposit some days beforehand, it might be thought, with regard to the choice of nests, that the egg which is maturing assumes the colour of the eggs of the nest, because the pregnant cuckoo is thinking of the same; but this explanation does not meet the case of nests which are hidden in hollow trees (*e.g., Sylvia phœnicurus*), or which have the shape of a baking-oven with a narrow entrance (*e.g., Sylvia rufa*). In these cases the cuckoo can neither slip in nor look in; it must even deposit its egg from the outside and put it in with its beak; it can thus not at all perceive by its senses how the other eggs of the nest look. If now, notwithstanding, its own egg precisely resemble the others, this can only be due to unconscious clairvoyance, which regulates the colour and marking in the ovary. Should, however, the supposition be correct, that one and the same female cuckoo always deposits in the nests of one and the same species of bird, and accordingly always eggs of the same colour and marking, the problem would only assume the converse form, and the question would arise, How does the cuckoo learn what nest-eggs its own eggs look like, if she cannot peep into the particular nests?

An essential support and confirmation of the existence of clairvoyance in the instincts of animals lies in the facts, which also prove a clairvoyant intuition in the case of human beings under certain circumstances. The curative instincts of children and the pregnant have been already mentioned. For the most part, however, conformably to the higher stage of the human consciousness, there occurs here, along with the unconscious clairvoyance, a strong

reverberation in consciousness which exhibits itself as more or less clear presentiment. It is, moreover, in harmony with the greater independence of the human intellect that this presentiment does not exclusively occur with reference to the direct execution of an action, but sometimes also manifests itself as pure idea, without conscious will, quite apart from any deed about to be done, if only the condition is satisfied, that the object of this divination powerfully *stimulates* the *will* of the diviner. After suppression of an intermittent fever or other illness, it not seldom happens that the sick person precisely foretells the time at which an attack of convulsions will ensue and end. The same happens almost without exception in spontaneous, and often in artificially produced somnambulism: the Pythia, as is well known, always announced the time of her next ecstasy. Likewise in somnambulistic states the remedial instincts are often expressed in divination of the appropriate medicaments, which have as often led to brilliant results, as they seem to contradict the present standpoint of science. The prescription of remedies is certainly also the only use which respectable magnetisers make of the half-sleep of their somnambules. "It sometimes also occurs that quite healthy persons, before giving birth to a child, or in the very beginning of an illness, have a near presentiment of their approaching death, the fulfilment of which can hardly be explained as a mere coincidence, for otherwise it should far more rarely occur than the non-fulfilment, whereas the fact is just the contrary; moreover, many of these persons exhibit neither longing for death nor fear of it, and it cannot therefore be explained as the effect of imagination." (From the work of the celebrated physiologist Burdach, "Blicke in's Leben," chapter "Presentiment," whence a great part of our more striking instances is borrowed.) This presentiment of death, exceptional in the case of man, is quite common among animals, even those which neither know nor comprehend death. They creep away, when they feel

their end approaching, into places as remote, lonely, and concealed as possible; this is, *e.g.*, the reason why, even in towns, the corpse or skeleton of a cat is so seldom found. We must only assume that the unconscious clairvoyance, although essentially alike in man and animal, evokes presentiments of different distinctness; thus, *e.g.*, the cat is urged purely instinctively to creep away without knowing why; but in man there awakens the clear consciousness of the near end. But there are presentiments not merely of one's own death, but also of that of dearly-loved persons with whom we are closely linked, as is proved by the many stories where a dying man in his death-hour has appeared to his friend or spouse in a dream or vision, narratives which are found among all peoples and in all times, and in part undoubtedly contain genuine matter of fact. Closely allied is the faculty of second-sight, formerly common in Scotland and now in the Danish isles, whereby certain persons not in an ecstatic state, but in the full possession of their senses, foresee future or distant events which have an interest for them, as deaths, battles, great conflagrations (as Swedenborg the burning of Stockholm), arrival or fate of distant friends, &c. (*cf.* Ennemoser, "History of Magic," 2d ed., § 86). In many persons this clairvoyance is limited to the decease of acquaintances or neighbours; the instances of such corpse-seeresses are numerous, and are remarkably well, even judicially, attested. Transiently this faculty of second-sight is found in ecstatic states, in the spontaneous or artificially produced somnambulism of higher degrees of waking dreams, as well as in clear moments before death. Frequently the presentiments in which the clairvoyance of the Unconscious is revealed to consciousness are dark, incomprehensible, and symbolical, because they are obliged to take a sensible form in the brain, whilst the unconscious idea cannot partake of the form of sensibility (see C. Chap. i.); wherefore it is so easy to regard what, in mental moods, dreams, or the images of sick persons, is accidental as

significant. The great liability to error and to self-deception resulting herefrom, and the facility for intentionally deceiving other people, as well as the preponderating disadvantage which, as a general rule, the knowledge of the future brings to man, enhance beyond all doubt the practical mischief of all endeavours to obtain a knowledge of the future. This cannot, however, derogate from the theoretic importance of this department of phenomena, and cannot in any case hinder the recognition of the true facts of clairvoyance, even if buried beneath a confused mass of nonsense and deceit. It is true the prevailing rationalistic and materialistic tendency of our time finds it convenient to deny or to ignore all facts of this class, because they cannot be comprehended from a materialistic point of view, and cannot be brought to the test of experience according to the inductive method of difference; as if the latter were not just as inapplicable in ethics, social science, and politics! But for impartial judges the absolute denial of all such phenomena is consistent only with ignorance of the accounts, which, again, arises from the not wishing to become acquainted with them. I am convinced that many impugners of all human divination would judge differently, or at least more cautiously, if they thought it worth their while to make themselves acquainted with the reports of the more striking facts; and I am of opinion that at the present day nobody need be ashamed of adopting a view which all great minds of antiquity (Epicurus excepted) have acknowledged, whose possibility hardly any great modern philosopher has ventured to dispute, and which the champions of the German "enlightenment" were so little inclined to relegate to the province of old wives' fables, that Goethe has even related an example of second-sight in his own life, which was confirmed even to the smallest detail.

Ill-adapted as I should think this class of phenomena for forming the sole *foundation* of a scientific belief, I nevertheless think them highly worthy of mention as a

complementary extension of the series of phenomena presented to our view in the clairvoyance of animal and human instincts. And precisely because they form a continuation of this series (the reverberation in consciousness merely being stronger) do they lend support to the testimony of instinctive action to its own character, as their probability is itself strengthened by analogy with the clairvoyance of instinct. This, and the wish not to have missed an opportunity of lifting my voice against a fashionable prejudice, is the reason why I have allowed myself, in a scientific work, to make mention, if only incidentally, of matters so little credited at the present day.

We have to mention, in conclusion, one more species of instinct, which is likewise in the highest degree instructive with regard to its essential nature, and at the same time again shows how impossible it is to avoid the hypothesis of clairvoyance. In the previous examples every being acted for its own interest, except in the case of the instinct of propagation, when such action is always for the benefit of other individuals, namely, the offspring: we have still to consider the cases, where among several individuals there exists such a solidarity of instinct, that, on the one hand, the performance of every individual stands all in good stead, and, on the other hand, valuable work can only be done by the consentaneous co-operation of many. In higher animals this instinctive reciprocal action also takes place, but it is here more difficult to distinguish from union as result of conscious volition, as language makes possible a more perfect communication of mutual plans and intentions. Nevertheless we shall again distinctly see this effect of an instinct of the masses in the origin of language and the great political and social movements in the history of the world. Here we are dealing with examples as simple and clear as possible, and therefore turn our attention to lower animals, where the means of communication, in the absence of voice, mimetics, and physiognomy, are so imperfect, that the harmony and blending

of the performances of individuals in the main work cannot possibly be ascribed to conscious agreement through the medium of language.

According to Huber's observations (*Nouvelles Observations sur les abeilles*), on the building of new combs a part of the *larger* working bees, which had taken their fill of honey, took no part in the ordinary occupations of the rest, but kept perfectly quiet. After four-and-twenty hours, laminæ of wax had formed under their abdominal segments. This the bee drew out with its hinder foot, chewed, and formed into a band. The waxen laminæ thus prepared were then glued to the roof of the hive. When one bee had in this way used up its laminæ of wax another followed, which continued the same work. Thus was formed a small, rough, perpendicular wall, half a line in thickness, attached to the hive. Now came one of the *smaller* working bees, which had an empty abdomen, examined the wall, and made in the middle of one of its sides a shallow semi-oval excavation, piling up the extruded wax round its edge. After a short time it was relieved by another bee of a like kind, and in this way more than twenty bees succeeded one another. During this time, on the opposite side of the wall another bee had begun to make a similar excavation, but in correspondence with the edge of the excavation on the hither side. This bee, too, was relieved by fresh workers. Meanwhile other bees approached, drew waxen laminæ from under their abdominal segments, and therewith raised the edge of the little waxen wall. A succession of fresh workers continued to excavate the ground for new cells, whilst others persisted in the endeavour to bring those which had been already commenced into regular form, and likewise to prolong the prismatic walls of the same. All this time the bees on the opposite side of the waxen wall continued to work according to the same uniform plan, in most exact agreement with the working bees on the hither side, until at last the cells of both sides were finished in all their admirable

regularity, and with a complete interlinking, not only of those cells in juxtaposition, but also of those opposed to one another by their pyramidal bases. Now imagine beings limited to sensuous means of communication, desirous of agreeing upon a common purpose and plan, how they would misinterpret each other's intentions, would dispute and quarrel; how often something preposterous would be done, how work would have to be pulled to pieces and done over again; how for this business too many would press in, for that too few would be found; what a running to and fro there would be before each one had found his proper place; how now too many would offer to relieve their comrades, and now there would be a deficiency of hands, as we find in the combined efforts of human beings, standing so much higher in the scale of existence. We see nothing of all this among bees; on the contrary, it rather looks as if an invisible supreme architect had laid before the assembly the plan of the whole, and had impressed it upon each individual; as if every kind of labourer had learnt his destined work, place, and order of affording relief, and was informed by some signal of the moment when his turn came. But yet all this is mere result of instinct; and as by instinct the plan of the whole hive indwells in each single bee in unconscious clairvoyance, so a common instinct urges each individual to the work to which it is called, at the right moment; only by such means is the wonderful quiet and order possible. What conception one should form of this mutual instinct can only be cleared up much later on, but its possibility is now evident, since each individual must have an unconscious clear vision of the plan of the whole, and all the means available at the moment, of which, however, only that part which falls to his lot enters his own consciousness. Thus, *e.g.*, the larva of a bee spins its silken cocoon, but other bees must set the enclosing waxen roof thereon; the plan of the whole cocoon is thus present to all concerned unconsciously, but each one only performs its own part in the affair with conscious

volition. That the larva, after its metamorphosis, must be liberated from its cocoon by other bees has been already mentioned, likewise that the female bees kill the drones in autumn, so as not to have to maintain their useless messmates during the winter, and that they only allow them to live, if it be necessary to impregnate a new queen. While the eggs are maturing the workers are busy constructing cells for their reception, and usually for just the number of eggs the queen will lay, and, moreover, in the order in which the eggs will be laid, namely, first for the workers, then for the drones, then for the queens. Here again it is obvious that the instinctive actions of the workers are dependent upon concealed organic processes, which can manifestly only have an influence upon them through an unconscious clairvoyance. In the commonwealth of the bee, the productive and the sexual energy, elsewhere united, are personified in three kinds of individuals; and as in an individual the members, so here the individuals themselves stand in inner, unconscious, spiritually organic union.

We have then in this chapter obtained the following results:—Instinct is not the result of conscious reflection—not a consequence of bodily organisation—not mere result of a mechanism founded in the organisation of the brain—not the effect of a dead, and essentially foreign mechanism, externally adhering to the mind—but the individual's *own* activity, springing from his inmost nature and character. The end, to which a definite kind of instinctive action is subservient, is not conceived once for all by a mind standing *outside* the individual like a providence, and the necessity to act conformably thereto externally thrust upon the individual as something *foreign* to him; but the end of the instinct is in each single case unconsciously willed and imagined by the *individual*, and the choice of means suitable to each special case unconsciously made. Frequently the knowledge of the purpose of the unconscious cognition is not at all ascertainable by sense-perception.

Then the characteristic attribute of the Unconscious is shown in the clairvoyant intuition, of which there is an echo in Consciousness as presentiment, either feeble and evanescent, or, as in the case of man in particular, more or less distinct; whilst the instinctive action itself, the adoption of the means to the unconscious end, is always vividly realised in consciousness, because otherwise correct execution would be impossible. Lastly, clairvoyance is manifested also in the co-operation of several individuals for a common unconscious end.

Clairvoyance has hitherto been an incomprehensible empirical fact, and it might be objected: "I would rather put up with instinct as an incomprehensible fact." To this it is replied, firstly, that we find clairvoyance also apart from Instinct (especially in man); secondly, that clairvoyance is far from occurring in all instincts; that thus instinct and clairvoyance are empirically given as two distinct facts, in which perhaps clairvoyance may serve to explain instinct, but not conversely; and, lastly, in the third place, that the clairvoyance of the individual will not be found to be so incomprehensible a fact, but will, in the sequel of the investigation, receive a sufficient explanation, whereas the comprehension of instinct in every other way must be foregone.

The conception here worked out is the only one which enables us to comprehend instinct as the inmost core of every being; that it really is so is shown by the impulse of self-preservation and race-maintenance, which pervades the whole creation, by the heroic spirit of sacrifice, with which the well-being of the individual, nay, life itself, is offered as a sacrifice to instinct. Look at the caterpillar, which continues to mend its web till it succumbs through weakness; at the bird, which dies of exhaustion in laying its eggs; at the restlessness and grief of all migratory animals when prevented from migrating. An imprisoned cuckoo always dies in the winter from despair at not being able to depart; the vineyard snail,

also, if denied its winter sleep. The weakest animal, when a mother, accepts the struggle with the strongest opponent, and cheerfully suffers death for its young; an unsuccessful human lover becomes crazed, or commits suicide, as is evidenced by ever-fresh victims. A woman, on whom the Cæsarean section had once been successfully performed, was so little deterred from further sexual intercourse by the certain prospect of a repetition of this fearful and generally fatal operation, that she afterwards thrice underwent the same operation. And we are to believe that such a demonic power is exercised by something engrafted on the mind as a mechanism foreign to our being's core, or through a conscious reflection which rarely advances beyond a bald egoism, and which is altogether incapable of such sacrifices for the race as are exemplified in the procreative and maternal instincts!

In conclusion, we have still to consider the question how it happens that instincts are so uniform *within* an animal species, a circumstance which has not a little contributed to strengthen the view of the engrafted spiritual mechanism. It is, however, evident that like causes have like effects, whence such a phenomenon is explained of itself. For in any animal species the fundamental corporeal structure is the same, *also* the faculties and development of the conscious understanding (which is not the case with man, nor to a certain extent with the highest animals, to which their greater individuality is in part due). The external conditions of life are *likewise* tolerably the same, and so far as they are essentially different, the instincts also are different—a point which hardly requires any illustration (*cf.* pp. 79, 80). But from similar mental and bodily constitutions (under which like cerebral and ganglionic predispositions are comprehended) *and similar external circumstances* there necessarily follow, as a logical consequence, similar life-purposes; from like aims and like inner and outer circumstances follows, however, like choice of means, *i.e.*, like instincts. The last two steps

would not be granted without any limitation if one were dealing with conscious reflection, but since these logical consequences are drawn by the Unconscious, which unfailingly adopts the right course without hesitation or delay, they also always directly result from like premises. Thus even the last point which might be urged in support of opposite views is explained by our conception of instinct.

I conclude this chapter with the words of Schelling (I. vol. vii. p. 455): "There is no better touchstone of a genuine philosophy than the phenomena of animal instinct, which must be ranked among the very greatest by every thoughtful human being."

IV.

THE UNION OF WILL AND IDEA.

In every volition the *change into another state than the present* is willed. A present state is always given, even if it be pure rest; from this present state alone, however, willing could never arise unless there were the possibility, at least the ideal possibility, of something else. The one state, which should really and ideally allow of nothing else, would be complete in itself, without being able to pass out of itself, even idealiter, for this passing out of itself would be already its otherness. That volition also, which wills the persistence of the present state, is only possible through the idea of the *cessation* of such state, which is held in aversion, thus through a *double negation;* without the *idea* of cessation, *willing* of persistence would be impossible. The position is impregnable, then, that for volition two things especially are necessary, of which the one is the present state, and that, too, as starting-point. The other, the end or goal of volition, cannot be the now present state, for we always possess the present out and out. Thus it would be absurd still to will it; it can at the most produce satisfaction or dissatisfaction, but not willing. It cannot, then, be an existing, but merely a *non-existing* state which is willed, and willed, moreover, *in the form of existence.* The state can only pass from non-being into being through the *becoming,* and if it arrives at being through the becoming, the moment hitherto called present is *past,* and a new present has arrived, which looked at *from the former moment* is still *future.* This

former moment is, however, that of willing, consequently it is a *future* state, whose presentness is willed. This future state must then be contained in willing as the otherness of the now present state, and furnish volition with its end or goal, without which it is not thinkable. But now, as this future state without present existence *cannot be realiter* in the present act of willing, and yet *must* be therein in order to be *possible*, it must necessarily be contained in it *idealiter, i.e., as representation;* for the ideal is exactly the same as the real, only without reality, as conversely reality in things is that unique somewhat in them which cannot be brought about by thinking, and which exceeds their ideal content (*cf.* Schelling's Works, div. i. vol. iii. p. 364). In the same way, too, the (positively thought) present state can only become the starting-point of volition so far as it enters into the idea (in the widest sense of the word). We have, then, in willing, two ideas—that of a present state as starting-point, that of a future state as ultimate point or goal; the former is conceived as idea of a *present* reality, the latter as idea of a reality still *to be procured.* Now will is the endeavour to procure reality, or the endeavour to pass from the state represented by the former into that represented by the latter idea. This endeavour itself does not admit of description and definition, because we are confined to the sphere of *ideas,* and the endeavour is, *per se,* something heterogeneous to the idea; one can only say of it that it is the *immediate cause of change.* This endeavour is the ever-identical *empty form of volition,* which awaits replenishing with the most varied content of imagination; and as every *empty* form is an abstraction *without any other reality* than that which it obtains by its content, so likewise this. Volition is existential or actual only through the relation between the idea of the present and future state; if this relation be abstracted, the conception, which cannot be found without it, is deprived of reality, of existence. No one can in reality *merely* will, without willing *this* or *that:*

a will which does not will *something*, *is* not; only through the *definite content* does the will obtain the possibility of existence, and this content (not to be confused with motive) is, as we have seen, *Idea*. Therefore, NO VOLITION WITHOUT MENTAL OBJECT, as Aristotle said long ago (De An. iii. 10, 433, b. 27): ὀρεκτικὸν δὲ οὐκ ἄνευ φαντασίας.

One must, at the same time, guard against the false conclusion that, whenever one thing is proved to be contained in another thing without being contained in it realiter, the assertion is implicitly made that it must be contained in it idealiter. This would be, in fact, a logically incorrect conversion of the true proposition that the ideal is the same as the real, only without reality. That I am far from making this faulty conversion I have already given evidence, in seeking to explain memory and character by latent tendencies of the brain to particular molecular vibrations, and in that I look upon volition as actual manifestation of power, that is, of the will. The former, namely, are quiescent material states (definitely related positions of atoms), which may perhaps be looked upon as the *realisation* of an idea implicitly containing future states within it, but can never themselves be called ideal (*cf.* Ges. philos. Abhandlungen, No. II. pp. 35–37); the latter, on the contrary (the potentiality of volition), is only the formal condition of actuality in general without any definite content. Volition, abstracted from its content, is potentially possible, but thus it is also only the purely formal side of the definite act of will. The content itself of this act of will is never to be conceived otherwise than as representation or idea; for volition is not anything material, in whose stationary parts future differences might be predetermined by certain spatial relations, but it is something immaterial, and the not yet existent future to be realised by it must consequently be contained in it in an *immaterial* manner. But further, the content of will is always thoroughly definite, only in this way and not otherwise attaining realisation, thus not to be characterised

as potentiality, which would only express the formal condition of realisation in general, but not the definite "What" of such realisation. Without a fully determinate content of the yet non-existent reality, no realisation would be possible, because infinitely diverse possibilities remain open. This determinateness *of content* of a something not yet really existing, which at the same time is to be given *immaterially*, is now by no means to be thought otherwise than as *ideal* determinateness, *i.e.*, as representation. This condition is immediately known to us in conscious volition, and introspection can at any moment assure us that that which is willed is before its realisation nothing else than idea of an object.

But the naturalness and self-evidence of this relation between will and idea (as the two poles about which the whole life of the mind turns), and the impossibility of finding any substitute for the idea as content of will (*i.e.*, as immaterial, not yet realised determinateness of volition), constrain us to assume that *the whole* content of will is idea, no matter whether the will and idea be conscious or unconscious. In assuming will we assume idea as its determining and distinguishing content, and whoever refuses to recognise the ideal (unconscious) content of representation as the What and How determinative of action must, to be consistent, also refuse to speak of an unconscious will as the inner cause of the phenomenon. This simple consideration exposes the singular defectiveness of the system of Schopenhauer, in which the Idea is by no means recognised as the sole and exclusive content of Will, but a false and subordinate position is assigned it, whilst the maimed and blind Will nevertheless altogether comports itself *as if* it had a notional or ideal content.[1] But whoever, like Bahnsen, *e.g.*, denies that the

[1] When Dr. *J. Frauenstädt* assents to my explanations (Sunday supplement of the Voss. Ztg., 1870, No. 8, and "Unsere Zeit," Nov. 1869. p. 705), and thereby admits that the system of Schopenhauer is only tenable after a revision in the sense of the text, I can only express my satisfaction ; but when he maintains that the system is not

will as potentiality of volition is something purely formal and absolutely empty—whoever sees in it, instead of an attribute of the all-one substance common to all beings, an individual essence subsisting and existing *a se* and *per se*—has only the alternative (if discontented with a postulated nondescript defying human comprehension), either to define the characteristic essence of this individual potency itself as *ideal* determination (thus merely needlessly transferring the completing idea from volition to the pure Will), or to go over entirely to Materialism, *i.e.*, to surrender the will as metaphysical principle, and to make it identical with the parts of the brain prearranged in this or that way, whose function then would be volition.

It may be advisable to touch here, at least by way of suggestion, on a few points which are adapted to confirm the proposition, that no kind of volitional activity is possible without ideal content of representation.

First of all, it would be a gross error to deny the ideal content of volition because volition is strictly *necessitated*. This argument would before all things prove *too much*; for, *in the first place*, it would just as much destroy the activity of volition as the ideality of the content, if it in fact reduced the necessitated event to a dead passivity, purely outwardly determined and deprived of every self-determination from within; and, *secondly*, would place conscious volition in precisely the same category as the unconscious volition of a falling stone, since on the one hand the former is just as strictly determined and necessitated as the latter; on the other hand, however, the falling stone, if it had consciousness, would (according to the well-known declaration of Spinoza) believe it acted freely. The objection simply ignores the truth that there is no purely passive necessitation at all, that rather all

defective in the manner specified, he is contradicted by the facts of the case; and historically those followers of Schopenhauer are more in the right, who think they remain faithful to the doctrine of their master by rejecting as impossible the unconscious ideation for which I contend.

necessitation includes *autonomous activity*,—autonomous because, in the way in which anything reacts against the forces influencing it, it follows the immanent laws of its own nature. This holds good of the force of gravitation of the stone which reacts on the terrestrial mass, or of the elasticity of the billiard-ball reacting against the inertia of the cushion, just as well as of the human character reacting against the conscious motives. If now we view the physical forces as will-forces, we cannot avoid regarding as an ideal determination the internal determination of the same by the immanent laws of the particular stage of the objectified will, which in every case is the necessary prius of real activity, *i.e.*, the content of volition before completed realisation, in this case also as Presentation (cf. C. Chap. v.)

A second point is, that the notion of necessitation or of the necessity of events is only to be maintained against the subjectivist deniers of an objective-real necessity, if the purely external event is regarded as determined and brought about by an inner *logical* compulsion, which, moreover, can be the only sense of a regularity of nature conformable with that of logic (*cf.* the conclusion of No. 3 of Chap. xv. C,) But if all necessity is logical, this (unconscious) logic can only penetrate the manifestation of the blind and intrinsically alogical Will, if its content is not again itself alogical Will, but logical Idea.

The third point, which I wished to mention, leads us into the province of the theory of cognition. Thought cannot throw off the nature of thought; it may perhaps deny itself as conscious thought, but it thereby attains so little positivity, that even the right to this negation of itself is lacking, so long as it is powerless to make any positive statement beyond the sphere of its own consciousness. Thought thus either never goes beyond itself, or the true positive content of what is beyond its sphere of consciousness must itself again be thought, representation, ideal content. Now since the causality which evokes the

act of sensation is the sole direct bond of union between consciousness and its otherness, the content of this causal affection which sensation follows must be an ideal one. Here we come, through want of an explanation to satisfy the demands of the theory of cognition, to the same truth as we reached before from metaphysical considerations, namely, that the causal necessitation or real causality must have an ideal content, although this is here demonstrated merely for the act of sense-impression (*cf.* Das Ding an Sich und seine Beschaffenheit: Berlin, C. Duncker, 1871, especially pp. 74-76).

We now then know that, wherever we meet with a volition, a representation must be united with it, at the very least that which ideally represents the goal, object, or content of the volition; the other idea, the starting-point, might possibly become equal to zero, if the will takes its rise in pure nothingness. However, we have nothing to do with this case in empirical phenomena; on the contrary, the starting-point is here given once for all as the positive feeling of a present condition. Accordingly every *unconscious volition* also which actually exists must be united with ideas, for in our former examination nothing cropped out in reference to the distinction of conscious and unconscious will. The positive feeling of the present state must even in conscious volition always be conscious to *the* nerve-centre to which the volition is referred, since a materially excited sensation, *if* it is present, must always be conscious; on the other hand, in unconscious volition the idea of the aim or object of volition must also, of course, be unconscious. Thus even in subordinate nerve-centres an idea must be united with every actual volition, and one, moreover, according to the nature of the will either relatively to the brain, or absolutely unconscious. For when the ganglionic will wills to contract the cardiac muscle in a particular manner, it must first of all possess the idea of this contraction, for otherwise God only knows what could be contracted, but not the

cardiac muscle. This idea is in any case unconscious in respect of the brain, but in respect of the ganglia probably conscious. But now, as we saw in the second chapter in the case of voluntary movements of the cerebral will, the contraction must be effected by the arising of a will to excite the appropriate central endings of the motor nerve-fibres in the ganglia. That again implies an idea of the position of these central nerve-endings, and this idea, analogous to the unconscious idea of the position of the motor nerve-endings in the brain, must be conceived as absolutely unconscious. In correspondence with these ideas the will to contract the cardiac muscle will also have to be thought as a *relatively* unconscious one, the will to excite the appropriate nerve-endings in the cardiac ganglia which effects its realisation as *absolutely* unconscious.

We have seen that volition is an empty form, which only finds in the idea a content giving it actuality, but that this form itself is something heterogeneous to the idea, and therefore not to be defined by concepts, *sui generis*, namely, that which, being, it is true, in itself still unreal, in its *operation* causes the *passage* from the ideal to the *actual* or real. Volition is thus the *form of the causality of the ideal with respect to the real;* it is nothing but operation or activity, pure going-out-of-self, whilst the idea is pure being-with-self and abiding-in-self. But if the fundamental distinction of the form of the will from that of the idea consists in the outwardly efficient causality and the going out of self, the latter, as a something self-enclosed, must be without external causality, if the just stated difference is not again to be abolished. For ideation always accompanies volition, and if the idea also possessed an external causality, the distinction between will and idea would in fact be abolished, whilst we should have again to find and to characterise afresh the two different moments within each. Therefore we prefer to retain for these polar moments the words Will and Idea, and assume a con-

nection between the two when we find them united. We have already done this in the case of Will; it still remains in future to recognise Will in the Idea wherever the latter displays an outward causality. Aristotle has expressed this too (De. An. iii. 10, 433, a. 9): *καὶ ἡ φαντασία δὲ, ὅταν κινῇ, οὐ κινεῖ ἄνευ ὀρέξεως*, *i.e.*, "but the presentative faculty, when it acts externally, does not act without a will."

As we have seen above that the strict followers of Schopenhauer are willing, indeed, partially to recognise the unconscious will, but not the necessity of its being filled with unconscious representation or idea, so the Hegelians and Herbartians, if they rightly understand their masters, may perhaps readily recognise the unconscious idea or representation, but will not grant the necessity of the unconscious will. As the former, without being aware of it, implicitly think the idea in the matter of volition, so the latter think the Will in the impulse and faculty of self-realisation of the Idea, or in the conflicting energies of the psychological mental representations, without making explicitly clear to themselves this important implicit thought. Misled perhaps by Herbartian influences, some of our recent physiologists also make the idea, as such, without more ado, produce physiological effects in the body.

The first application we would make of the proposition here maintained is to confirm the statement, that the unconscious idea of the position of the central endings of motor nerve-fibres cannot operate without the will to excite those places, and that the mere unconscious idea of an instinctive purpose can be of no avail if the end is not also willed; for only by *willing* the end can the *willing* of the means be evoked, and only by the *willing* of the means these means themselves. What is here said of the instinctive purpose of course holds equally good of every other unconscious idea of an end which will present itself in the following chapters.

In conclusion, we can now more closely consider the question of the difference between the conscious and the unconscious will. A will, the content of which is formed by an unconscious idea, could at the most be consciously perceived according to its empty form of volition, and acts of will of that kind could then at the most only be discriminated by consciousness as different *in degree;* on the other hand, it can no longer be perceived by consciousness as *this specific* will, since its specific nature is only determined by its content. Accordingly, for such a will the application of the word "conscious" is unconditionally excluded, as in no case can more be said than that *this* specific will becomes *conscious.* Moreover, experience also teaches us that we know so much the less of a will the fewer the ideas or feelings accompanying it which reach the cerebral consciousness. Accordingly, it almost seems as if will as such were not generally accessible to consciousness, but became so only through its marriage with the idea. (This is proved, in fact, in Chap. iii. C.) However that may be, we can now assert that an *unconscious will is a will with unconscious idea as content,* for a will with conscious idea as content will always be conscious to us. If, in saying this, the distinction between conscious and unconscious will is only traced back to the equally difficult distinction between conscious and unconscious idea, yet an essential simplification of the problem is thereby obtained.

V.

THE UNCONSCIOUS IN REFLEX ACTIONS.

"At the present time those actions are called reflex in which the existing stimulus does not directly affect either a contractile tissue or a motor nerve, but a nerve which imparts its state of excitement to a central organ, whereupon, through the mediation of the latter, the stimulus overflows on to motor nerves, and then for the first time is made apparent by muscular movements."[1] This explanation seems to me as good a one as the physiologists are able to give, and no qualification of the same can be found which does not exclude certain classes of reflex action generally recognised by this name; and yet it is easy to see that it is much wider than physiology intends, since all movements and actions find a place among them, whose antecedent is not a thought which has arisen spontaneously in the brain, but is directly or indirectly a sense-impression. To pursue further this gradual passage of the lowest reflex movements into conscious voluntary actions, we must examine various examples.

If a freshly excised frog's heart, which pulsates slowly, be irritated by the prick of a needle, there arises independently of the rhythm of the beat a systole (contraction) in the normal succession of the parts. Before the complete extinction of irritability a time occurs when the

[1] Wagner's Handwörterbuch der Physiologie, vol. ii. p. 542, article "Nervous Physiology," by Volkmann. On the historical development of the notion of reflex movement, and for an estimate of the views of earlier investigators, which often come very near the truth, compare also the excellent memoir of J. W. Arnold: "The Doctrine of Reflex Functions."

irritation is only succeeded by a local contraction of decreasing extent. If the heart be divided when it is still powerful, but in such a way that there remain connecting portions between the parts, stimulation of the one part, in which a ganglion is contained in the muscular substance, produces contraction of both parts; on the other hand, irritation of the other part, which contains no ganglion, is only succeeded by local contraction. It follows from this, that the normal systole sequent on stimulation is no simple phenomenon of the stimulus of a contractile tissue, but a reflex movement mediated by the embedded ganglia. Other experiments, *e.g.*, the division of the spinal cord by small cross sections, &c., render it probable that any nerve-centre may effect reflex actions. The more this nerve-centre is developed the higher is the degree of propriety and adroitness in complicated movements exhibited in its reflex actions. Volkmann says (Hwb. ii. 545): "When different muscles are combined to produce a reflex movement, whether synchronous or successive, the combination is always mechanically appropriate. I mean, the simultaneously active muscles support one another, *e.g.*, in producing a flexure, and those which are active in succession unite in the judicious continuation and completion of the already commenced movement. If a decapitated frog in an extended position be stimulated in the hind leg sufficiently powerfully, the flexors and adductors of both legs first of all act in combination, next the legs are drawn towards the body, the extensors are combined for joint extension, and the total result is a more or less regular actual movement, whether of swimming or leaping.

"In many cases the reflectorial movements have not only the character of fitness, but even a certain dash of intention. Young dogs whose cerebrum and cerebellum I had destroyed, sparing the medulla oblongata, when I took them roughly by the ears tried to get rid of my hand with the fore-paw. One often sees decapitated frogs rub

a violently filliped part of the skin (only possible by an alternating play of the antagonists), and tortoises, which are injured after decapitation, withdraw into their carapace." The medulla oblongata, as the most developed nerve-centre after the brain, is also that which effects the most complicated reflex movements, as, *e.g.*, respiration with its modifications: sobbing, sighing, laughing, crying, coughing; also sneezing on irritation of the nasal membrane, swallowing, and vomiting on gentle pressure (by a morsel) or tickling of the throat and palate; laughing ensues on tickling the external skin, coughing on irritation of the larynx.

Very important for the whole life of man, and indicative of much more complicated events in the central organs, are the reflex movements called forth by sense-perceptions; certainly a class of phenomena to which physiology has not yet given sufficient attention, because they can only be studied with the whole living body, and partly only psychologically in one's own person. It is, however, manifest that this mode of investigation has great advantages over that on mutilated corpses or animals with their brains removed, since in organisms which have just suffered death, or undergone the severest operations, or have been treated with strychnine, one can by no means assume a normal capacity of reacting on the part of the lower central organs, which stand in such direct correspondence with the destroyed parts. Moreover, in decapitated animals the medulla oblongata and the large cerebral ganglia, which probably should be reckoned to the spinal cord, or at least not to the brain, have also been removed. All this sufficiently explains the purposeless character of the reflex movements in some of these experiments, where one is unable to eliminate the pathological elements.

The proximate reflex movements called forth by a sense-impression consist in this, that the particular sense-organ is brought into the position, tension, &c., requisite for clear

perception. In touch there arises a movement to and fro of the finger; in taste, secretion of saliva and movement to and fro of the sapid matter in the mouth; in smelling, dilatation of the nostrils and short, quick inspirations; in hearing, tension of the tympanic membrane and movements of the ears and head; in vision, convergence of both optic axes towards the point of greatest stimulation, accommodation of the lens for distance, and of the iris to the intensity of light. All these movements, with the exception of the last named, can also be executed voluntarily, but only by means of the idea of the altered sense-impression; only with difficulty or not at all by the direct idea of the movements. *E.g.*, when the investigating oculist holds up his finger as a mark for the patient and bids him look up towards the right, there frequently occur the most distorted movements of the eyes and eyelids, but not the one desired. With enhanced vividness of the impression, the head, arms, and whole body not seldom take involuntary part in these reflex actions. Further, through the medium of the ear reflex movements are set up in the organs of speech, for, as is well known, children and animals learn to talk in consequence of the involuntary impulse which compels them to reproduce what has been heard. The like occurs in the catching of melodies, where the phenomenon is more easily observed, and in adults also. Without this reflexion it would be impossible to train birds to whistle tunes. The reflex compulsion to utter words one is accustomed to hear spoken may even be observed in our own thinking. Here, according to a process exemplified in a still higher degree in the production of dream-images and hallucinations, the thought of the word which is not yet an object of sense causes a centrifugal current of innervation towards the auditory nerve, as the reflex consequence of which a centripetal current brings back the auditory sensation of the word, and this calls forth in the organs of speech the reflex movements of the loud

or subdued utterance. The undisciplined man, *e.g.*, the uneducated or passionately excited man, thinks aloud. It requires the constraint of education to think silently, and even then one will almost always, if on the watch for it, detect a muscular feeling in the organ of speech, which is a weaker form of that which would arise in the utterance of the words, and thus manifestly represents a tendency to action. In reading it is just the same.

One of the most important reflex actions of the cerebrum, especially in respect to sense-perception, is that centrifugal current of innervation which we call Attention, and which is essential for all tolerably clear perception. It arises as reflex action on a stimulus, which affects the sensory nerve of the organs of sense. If the brain is otherwise too much occupied to react on such stimuli, this action does not take place, and then the sense-impression escapes us without becoming perception. This current of innervation can be directed to the several parts of a sense-perception (*e.g.*, to any part of the field of vision or an instrument in the orchestra), which explains the fact that one often sees and hears just that for which the present state of the brain has a particular susceptibility, which is also in accordance with many of the phenomena of somnambulism. It is also the partial failure of this current of innervation, which renders comprehensible the otherwise inexplicable difference between the *absent* and *black*parts of the field of vision. We may also voluntarily direct this stream of innervation to certain parts of the body, and thereby bring into consciousness as perceptions the usually unobserved sensations which all parts of the body are continually producing; *e.g.*, I can feel my finger-tips if I carefully attend to them: (think also of the hypochondriacal). A boundary-line between such currents of innervation as are produced by conscious will, and those which follow as reflex action on impressions of sense when the interest of the brain is fully gained, can no more be discovered and drawn here than in any

other department of these phenomena. Very remarkable are many of the reflex movements which are effected by the eye and the sense of touch. The eye not only protects itself reflectorially from injuries, which it sees approaching, by closure, bending of the head and body, or the holding up of the arm, but it also protects other threatened bodily parts in the same way, nay, even other things. For example, if a glass falls from the table, the sudden catching at it is just as much reflex movement as the ducking of the head when a stone is coming towards us, or the parrying of the thrusts in fencing; for in the one as in the other case the resolution after conscious reflection would come much too late. Must one really pronounce that a different principle which, in the one case, causes the young dog deprived of its brain to thrust aside with its paw a hand nipping its ear, and in the other causes the human being to ward off by the sudden raising of the arm a threatening blow perceived by the eye? The most wonderful reflectorial performances of the combined senses of sight and touch consist, however, in the complicated movements involved in preserving one's balance, as in sliding, walking, riding, dancing, leaping, performing gymnastic exercises, skating, &c., in part spontaneous (especially in the case of animals), in part acquired by practice, an original capacity being always presupposed. If one leaps a ditch, it is not easy to leap beyond the farther brink, although one may be able to leap much farther on level ground; but the eye, through an unconscious reflection, brings it about that just sufficient muscular force is applied to reach the opposite side, and this unconscious will is often stronger than the conscious one to leap farther. It is remarkable that all the afore-mentioned functions are executed much more easily, more certainly, and even more gracefully, if they are performed without conscious volition as simple reflex movements of the sensations of sight and touch. Every intervention of the cerebral consciousness operates only inhibitively and disturbingly; hence mules walk more

surely than men in dangerous paths, because they are not disturbed by conscious reflection, and somnambulists go and climb in the unconscious state where, if conscious, they would infallibly meet with an accident. For conscious reflection always brings along with it doubt and hesitation, and this frequently a fatal tardiness; the unconscious intelligence, on the other hand, is always beyond a doubt more certain to seize the right course, or rather doubt never occurs to it, and therefore it almost always does the right thing at the right moment. Even prelection and playing from notes, if consciousness be otherwise occupied or asleep, can take the form of mere reflex movements following on impressions of feeling, as cases have been observed where reading aloud has been continued a certain time after falling asleep, or pieces of music have been better played in dreamy unconscious states than when wide awake. That reading or playing from notes can often be continued quite unconsciously and without the slightest after-memory of the subject-matter, when consciousness is occupied with other fascinating thoughts, any one can observe for himself. Nay, even sudden curt answers to quick questions have often something reflectorially unconscious about them, when they drop out unawares like a pistol-shot, and afterwards one is often astonished or ashamed if they have been unsuitable to the occasion and the company.

More important, however, than all that has been hitherto noticed is the consideration that there is no, or almost no, voluntary movement which must not at the same time be regarded as a combination of reflex actions. I mean this: Anatomical investigations show that, in the upper part of the spinal cord the number of the primitive fibres amounts to only a very small fraction of the primitive fibres of all the nerves, which are destined to call forth movement through the conscious will, that is, by the brain. But now, as the path from the brain to the nerves supplying the muscles is, with few exceptions, only through the upper

part of the spinal cord, it follows that a fibre in the upper part of the spinal cord must be destined to innervate a great number of muscular nerve-fibres of the same part. A direct anastomosis (interlacing, connecting) of the fibres might be imagined, but this assumption seems highly improbable according to anatomical observations, and we are also compelled to abandon it from the circumstance that one and the same movement is now stimulated by the brain, now, in consequence of some other stimulation, is independently executed by the central organs of the spinal cord, and admits an immense variety of the most delicate and intricate modifications, whilst a direct anastomosis must necessitate the same invariable movements. In addition to this, the brain, which gives the order to execute a complicated series of movements, has itself no idea of this complication, but only a collective idea of the result (as in speaking, singing, walking, dancing, running, leaping, performing gymnastic exercises, fighting, riding, skating), so that the whole detail of execution, which is requisite for the total result intended, is intrusted to the spinal cord. (Let any one ask himself whether he knows anything of the muscular contractions necessary for uttering a word or for singing a colorature.) Accordingly the only mode of conceiving the matter remaining seems to me to be this: that the current of innervation, which carries the conscious volition of the total movement from the brain to the central organ of such movement in the spinal cord, and which is for the brain, indeed, centrifugal, but for the nerve-centre of the movement centripetal, that this current is felt as sensation by the motór centre just as well as an impression coming from the peripheral parts of the body, and that the consequence of this sensation is the occurrence of the intended movement. But it is clear that we here again see the definition of reflex movement to hold good, as soon as we resolve to employ the relative conceptions of centrifugal and centripetal currents in their *right* relations.

One easily sees that there is hardly a movement which, even if it is originated by the cerebral consciousness, is not first conducted once or several times to another motor centre, and there visibly executed. Consciousness *can*, it is true, decompose movements to a certain extent, and give a conscious impulse to any partial movement (this is indeed the way we learn to make the movement), but, in the first place, every such partial presentation will probably find no other path to the muscles than through the grey matter of the motor centres, thus always retaining the character of a reflex; secondly, even the simplest motor elements accessible to the cerebral consciousness still require highly complicated combinations of movement for their execution, into which consciousness never penetrates (*e.g.*, the utterance of a vowel or the singing of a note); and, thirdly, if its simple elements are as far as possible intended by the conscious will, the whole movement has something extremely slow, coarse, awkward, and heavy about it, whilst the very same movement is executed with the greatest facility, speed, certainty, and elegance, if only the final result was intended by the cerebral consciousness, and the execution was intrusted to the motor centres in question. One has only to think of the phenomenon of stammering. The stammerer often speaks quite fluently if he does not at all think of the utterance, and his consciousness is occupied only with the matter of his speech, but not with the mode of realisation; but as soon as he thinks of the utterance and desires to form this or that sound by conscious volition, he does not succeed, and in its stead all sorts of concomitant movements occur, which may even become convulsive. It is just the same with scrivener's cramp and all the above-mentioned bodily exercises, in which the main thing is that they become second nature, *i.e.*, that the conscious will ceases to trouble itself about the details. Through this way of conceiving the matter the phenomenon becomes for the first time explicable, why often a single impulse of the conscious will suffices to introduce a long

series of periodically recurring movements, which lasts until it is interrupted by a new volitional impulse. Without this arrangement all our ordinary actions, as walking, reading, playing, speaking, &c., would absorb an amount of the volitional impulses of the brain which must very soon result in fatigue. It, however, proves also the independence of the lower nerve-centres, and most decidedly refutes the above assumption of a direct anastomosis of the nerves. It may also now be comprehensible how it comes to pass that so many actions and occupations, whose slightest details must be attended to in their conscious acquisition, later on, with prolonged practice and habit, are performed quite unconsciously, as knitting, playing on the piano, reading, writing, &c. All the work, then, which during acquisition was done by the brain, has been handed over to subordinate nerve-centres; for these can call into play an habitual combination of certain activities just as efficiently as the brain in thinking or in learning by heart. That, however, then the activities become for the most part unconscious to the brain, gives them in respect to the brain a certain resemblance to instinctive actions, whilst indeed, in respect to the nerve-centre which presides over the activity, practice and custom is the precise opposite of instinct.

That all the phenomena hitherto considered have essentially the same underlying principle, it is not very difficult to see. We started with the reflectorial movements produced by irritation of peripheral parts of the body, and found a purpose most decidedly expressed therein, both in the result of the whole movement and in the simultaneous and successive combinations of the most different muscles; nay, in part, most decidedly expressed even in an alternating play of the antagonists. We then passed on to the reflex movements produced by means of sense-perceptions, and found here the same fact, only often with a dash of higher intelligence, in that the higher central points of the spinal cord came more into play.

Lastly, we noticed that reflex actions, in which the exciting stimulus is an innervating current from the brain to the other central organs concerned, are produced by the conscious will, and did not remark here any quantitative increase of effects as compared with the reflex movements produced through sense-perceptions; naturally enough, for the intelligence revealed in reflection depends far more on the stage of development of the reflecting central organ than on the nature of the stimulus.

That, in fact, the brain also can become a central organ of reflex actions, we cannot doubt from the analogy of its structure with the other centres. In reflex actions of the ganglionic system and in individuals deprived of brains, perception by the brain is excluded; but this may very well accompany the reflex actions of the spinal cord in the case of sound organisms. In this case, however, only the stimulation, but not the will to move, is felt in the brain; but the latter must manifestly also have place if the brain itself is to be a central organ of reflection. Such cases are, however, already familiar to us; *e.g.*, the catching at a falling glass or the parrying of a previously seen blow may have these characteristics. Accordingly we shall not be able to avoid regarding them as reflex actions, if only the link between perception of the action and the will to execute it lies outside the cerebral consciousness, which receives additional confirmation from the fact that conscious reflection would manifestly come too late. To the same category belongs a part of the not quite unconscious prelection and preluding, or the rapid answers to sudden questions, or the sudden taking off the hat at the unexpected greeting of an unknown person. Cerebral reflection frequently surpasses the reflection of the spinal cord, and prevents its occurrence; *e.g.*, a decapitated frog scratches the nipped place on the skin, a living one hops away. Here is seen the direct transition from cerebral reflection to conscious psychical activity, between which no line can be drawn. There follows from this the unity of

the principle underlying all these phenomena. There are, therefore, only two logical ways of looking at these things: either the mind is everywhere only the last result of material processes, both in the brain and in the rest of the nervous life (then, however, purpose would also have to be everywhere denied when not posited by conscious nervous activity), or the soul is everywhere the principle lying at the basis of material nervous processes, causing and regulating them, and consciousness is only a phenomenal form of the same, brought about by means of these processes. We shall see in the sequel which of these two assumptions better suits the facts.

The next point we have to investigate is the question, whether the phenomena we are considering may be looked upon as effects of a dead mechanism, or whether we are not compelled to conceive them as consequences of an intelligence immanent in the central organs, in which case the foregoing alternative may provisionally remain undiscussed. Let us first turn to physiology. The skin of a frog's thigh being pricked by a needle, we see both legs drawn up, provided the little piece of spinal cord from which issue the crural nerves remains intact. The prick of the needle manifestly affects only one primitive nerve-fibre, since within a circle of a certain size the position of the pricked place cannot be distinguished; the number of motor fibres put in action by the same is, however, enormously large, for it can embrace the whole body. The direct anastomosis of the sensory and motor nerves is hereby rendered improbable in the highest degree. It becomes, however, still more so by the circumstance that *the same* motor fibres react, when this or that place in the skin of the frog's thigh is pricked, when accordingly *different* sensory nerve-fibres convey the stimulus to the centre. Besides, microscopic investigations not only give no support to this supposition, but what is more, Kölliker has directly observed the emergence of motor fibres from globules of grey nerve-matter (central organ), and it is now generally supposed that the

central origin of all the nerve-fibres must be sought in the ganglion-cells, *i.e.*, the peculiar spherical or radiated cells of the grey nerve-matter. The stimulus conducted by the sensory fibres must accordingly, in any case, be first received by the central organ, and through this be conducted to the motor nerves; in no other way could any sensory fibre possibly be in a position to act upon any motor fibre of the same centre (as is actually the case). But if all the stimuli are first received by the central organ, and are only propagated from this to the motor nerves, then the materialistic explanation of reflex actions by a peculiar mechanism of the channels of conduction becomes quite impossible; for no laws and contrivances can at all be imagined which should allow one and the same current to pass over now to near, now to remote parts, should cause the reactions to follow now in this, now in that order, nay, should even permit an *alternating play of the antagonists* to occur on a *simple stimulus* (as in the rubbing of the filliped part). The impossibility of a pre-established mechanism is, however, physiologically demonstrable in a much more striking way. If one divides the spinal cord throughout its whole length by a longitudinal section, the capacity for reflex movements is not affected; it is only limited to the half of the body irritated on each occasion. If, on the other hand, a connecting bridge be left between the two separated halves at any place whatsoever, or if, at some distance from each other, now the left and then the right half of the spinal cord be cut across, so that all the longitudinal fibres are severed, *general* reflex movements may be excited by stimulation of each main point. This is probably the clearest proof that the motor reaction is not a consequence of the *predetermined* paths of the conduction of the stimulus, but that the current after destruction of the usual channels *makes for itself new paths*, in order to bring about the *suitable* reflex movements, provided only that the parts be not completely isolated. There must then be a principle *superior* to the material laws of con-

duction of the nerve-currents, which brings about this change of circumstances, in virtue of which the courses of these currents are changed, and this principle can only be an immaterial one. This is also verified by the circumstance, that the union of reflex movements is for the most part capable of being dissolved by conscious volition and exercise.

Forcible as are these anatomical-physiological reasons, they are still not the strongest of all. If the conformity to the end in view which appears in reflex actions were one externally predetermined, brought on the scene by a material mechanism, then the capability of accommodating movements to the nature of the circumstances, this inexhaustible wealth of combinations, each of which is suitable to its special case, would be plainly inexplicable. We should rather expect a constant recurrence of a few similar complex movements, whereas a single glance at the infinite number of combinations, as exemplified in the simple case of preserving one's balance, is sufficient to establish the conviction of an immanent fitness—an *individual providence,* as we have already come to know it when considering Instinct. We are absolutely obliged, then, so to represent to ourselves the event that the stimulus is perceived as idea, and through the idea of the danger or feeling of pain connected therewith the idea of relief through the corresponding counter-movement is produced, which now becomes the object of volition. That the nerve-centres of the spinal cord and ganglia possess the capacity of willing we have already settled ; that the cases being strictly parallel, they must also possess sensibility is evident at once; but since no sensation can be imagined without a certain degree of consciousness, however small, they also possess a certain consciousness. The beginning and the end of the process, the perception of the stimulus and the will to move, are then the functions which we have no hesitation in ascribing to every nervous centre. The only question is, whether the link between them, the

positing of design, can also be a function of conscious intellectual association of these nerve-centres? Now this must certainly be denied, for we have indeed seen, that the effects of reflexion are of so great importance to the organism, just because they so far surpass the performances of the conscious reflection of the *brain* in ease, speed, and accuracy. This is, however, precisely the character of the unconscious idea, as we have become acquainted with it in the case of instinct, and have learnt further to know it in other ways. Accordingly all that we have adduced in the case of instinct against its origination through conscious reflection holds here in a still higher degree, partly because the instantaneousness of the effect is more striking in the present case, and is in still greater contrast with the sluggishness of conscious thought in beings low down in the scale, partly because we have here to do in the case of animals especially with lower centres, whilst we only find results of conscious reflection at all worth mentioning where the cerebral functions of the higher birds and mammals come into play. If, on the other hand, we contemplate the animals whose chief centres are about on a par with the lower human nerve-centres, we observe the greatest obtuseness and stupidity (*e.g.*, in most amphibia and fishes), in contrast to which one cannot help being struck by the wonderful accuracy and fitness with which instinctive actions are performed, ever increasing in significance and extent in proportion to the entire mental life of the animal. Here there is none of that hesitancy of discursive thought, none of that shrewd and cautious consideration, which we observe in higher animals, but the instinctive action instantly follows on the impression, whereas reflection would often cost even the human brain a considerable time, and, when the action is inappropriate, as may well happen in sense-illusions in the conscious perception of causes, the pernicious error is embraced with equal certainty. We are compelled to designate this attribute of the unconscious idea, in contrast

to discursive thinking, an immediate intellectual intuition, and wherever we meet with the (not relatively to this or that centre, but absolutely) unconscious idea, we shall find this to be its characteristic.

This comparison with instinct will decidedly protect us, then, from regarding the immanent fitness of reflex movements as produced by conscious thought. The psychical autopsy of those reflex movements whose central organ is the brain entirely agrees with this; the first and last term of the psychical process, the perception of the stimulus, and the will to move fall within the consciousness of the organ, but not the uniting middle terms, which must contain the idea of design. The only mode of apprehending the matter, which is possible after our examination, is then this: that the reflex movements are the instinctive actions of the subordinate nerve-centres, *i.e.*, absolutely unconscious presentations, which embody the will of the reflex action (conscious for the particular centre, but unconscious for the brain), in consequence of the perception of the stimulus. In addition to this perception in the reflecting centre, the stimulus can, by conduction, also be felt in the brain; but there is then a second perception, which has nothing to do with the reflex movement and its occurrence. Instincts and reflex actions are also alike in this, that they exhibit essentially similar reactions in the individuals of the same animal species with similar stimuli and motives. This circumstance has given strength to the opinion that a dead mechanism is present instead of unconscious mental activity and immanent adaptation; but this circumstance as an objection to our view is invalidated by the consideration, that it is capable of an easy explanation in the manner indicated at the close of the chapter on Instinct.

VI.

THE UNCONSCIOUS IN THE REPARATIVE POWER OF NATURE.

When the nest of the bird, the web of the spider, the cocoon of the caterpillar, the shell of the snail are injured,—when the bird is stripped of a portion of its feathery robe,—the sufferers repair the loss which may imperil or impede their future existence. We have already seen that some of these phenomena must be ascribed to instinct, and can we fail to perceive the striking analogy of the other cases? We have seen that there is an unconscious idea of purpose, which, united with Will, dictates the conscious willing of the means to attain it; and are we to doubt that we have to do with the same thing, when the sphere of influence is no longer external, but the body itself, since we are not able to draw the line where the body proper begins and ends, as in the cocoon of the caterpillar, the shell of the snail, the feather-garment of the bird, or between excretion and secretion? If we deprive the polype of its tentacles or the worm of its head, the creature must die for want of food; and if the animal replaces the tentacles or the head and continues to live, can anything but the unconscious idea of their indispensableness be the fundamental cause of the restoration? Let it not be replied that the difference between instinct and the *vis medicatrix* lies in this, that in the former case the perceiving and willing of the means are, at any rate, conscious, but in the latter case these also are unconscious. For after the discussion on the independence of the lower nerve-centres, it cannot be doubted that the willing of the means may very well somehow and

somewhere reach the stage of consciousness in the lower nerve-centres, *e.g.*, the small ganglionic cells, from which the sympathetic nerve-fibres which regulate nutrition arise, even if the chief centre of the animal knows nothing at all about it. On the other hand, no one will confidently decide, whether and how far in the lower animals in the case of instinct even the willing of the means is a conscious act.

Let us now look a little closer at the effects of the *vis medicatrix.* In the case of the Hydræ every part of the mass is replaced, so that a new animal is formed out of each piece, whether the division be transverse or longitudinal, or the creature be even cut into shreds. Among the Planariæ every segment, if it only amounts to one-tenth or one-eighth of the whole body, becomes a fresh animal. Among the Annelids or worms restoration follows only after transverse section, when head or tail is always regenerated. In some cases the animal may be cut into pieces, and yet each single piece develops into a perfect example of its kind. It seems here clear enough that if, after any one of these indefinitely numerous sections, the separated part always furnishes a specimen manifesting the typical idea of its kind, this effect cannot be due to a dead causality, but the type-form must be present in each piece of the animal. But an IDEA can only exist either realiter in its external manifestation as realised idea, or idealiter so far as it takes the form of mental picture, and in and through the *presentative* act. Hence every fragment of the animal must have the unconscious image of the type according to which it accomplishes this regeneration; just as the bee before the construction of its first cell, and without ever having seen the like, carries in itself the unconscious representation of the hexagonal cell, accurate to half an angular minute, or as every bird must unconsciously have an idea of the form of the nest and mode of song characteristic of its species, before it has had any experience of the same. And observing the process of regeneration, *e.g.*, of

a divided earthworm, a white bud may be seen sprouting at the cut part, which gradually becomes larger, then acquires narrow, closely packed rings, expanding on all sides, and contains prolongations of the digestive canal, the vascular system, and the ganglionic cord. It requires a strong faith to suppose that the nature of the exudation at the wounded part and the vicinity of the corresponding organs are sufficient to bring about a further growth of the animal. But when one sees how from two *similar* cut surfaces, separated by several rings, there is formed on the one side the *head* with its special organs, on the other the *tail* with its organs, *and with organs too which have nothing at all analogous in the remaining portion of the trunk*, the assumption of a dead causality, of a material mechanism without an ideal factor, becomes a sheer impossibility.

In addition to this there are various secondary circumstances, which most clearly prove that the idea of what must be executed in the special case to realise the type is the originally determining element in these events. If the animal is not full-grown, and a part of it be violently removed, the regenerated part does not correspond to the former state of the animal, but is constituted as such part would have been *had the normal process of development never been interrupted.* This may be seen if the leg of a young salamander or the tail of a tadpole be cut off. Somewhat similar is the case of the horns of the stag, which are annually renewed as long as the youthful vigour of the animal remains; but when the development of the organism has reached its highest point and the vigour declines, the last pair of horns either remains till death, or the pair annually reproduced becomes in extreme age shorter and simpler.

Further, the force directed to this restoration of a part is greater the *more important* such part is for the continued existence of the animal: thus, *e.g.*, according to Spallanzani, worms regenerate their heads before their tails, and in

fishes the restoration of the amputated fins takes place in the order of their importance as motor organs; thus the caudal fins first, then the pectoral and ventral, and lastly the dorsal fins. Should the force, or more accurately the power, of the unconscious will in moulding its material and the external circumstances be insufficient for the regeneration of a part in the normal way, still the type of the class always gleams through the malformations which then arise. Thus, *e.g.*, if only one tentacle instead of two grows again on a snail's head which has been cut off, this one has two eyes, and men who have lost one joint of a finger sometimes have a nail growing on the second. The more a part is exposed to injury, the more easily is it regenerated. Thus, *e.g.*, the rays of the Asterias, the legs of spiders, the tentacles and antennæ of snails and beetles, the tails of lizards, possess a considerable regenerative power on account of their liability to injury. For the most part, it is some special joint from which the regeneration most easily proceeds, in which case the connected limb is extremely fragile; and if injury occurs anywhere else, an additional limb is frequently *thrown off* at that spot. Crabs, for example, do this. Spiders likewise free themselves at the cost of a leg when they find it grasped or compressed; but if the animal be held fast whilst the leg is squeezed, it cannot afterwards thus unceremoniously throw off the same, but it first entangles the leg in its web, then propels itself with the other legs, and in this way wrenches it off. This is manifestly instinct; and when the crab spontaneously throws off the injured leg, is that to be called something fundamentally different from instinct? And yet rejection of the injured limb is merely the first act of restoration. Still more wonderful is the instinct of the Holothuriæ which live in the Philippine Islands of the South Sea. These devour coral sand, and if they be taken from their native haunts and transferred to clear sea-water, they of their own accord eject from the anus the intestinal canal, with the branchiæ and

all other organs connected therewith, in order to form new viscera more in harmony with the altered medium. (A Holothuria burdened with needles or knives literally jumps out of its skin, rejecting it without in any way injuring its interior.)

The higher we ascend in the animal scale, the less potent, as a rule, becomes the *vis medicatrix*, being least influential in man. As long, therefore, as human physiology was exclusively studied, it was possible for the error to arise that a merely material mechanism produces remedial effects; but as anatomy first began to yield important results when it was studied comparatively, and psychology is just beginning to afford true enlightenment through a similar procedure, so in physiology only comparative investigation can give genuine insight. But when we have once got on the right track through a clear understanding of relations in the case of the lower animals, it will not be difficult to recognise this view also as the only possible one in the higher stages of organisation.

The reasons for the limitation of the *vis medicatrix* in the higher animal classes are partly internal, partly external. The inmost and deepest ground is that the organising force turns always more and more away from the outworks, and bends its whole energy to reach the final goal of all organisation, the organ of consciousness, in order to raise this to even higher perfection. The external grounds are that the organs of the higher animal classes are more solid, and also, in consequence of the mode of life of these creatures, are much less liable to fracture and mutilation, but at the most are exposed to wounds and injuries, for the majority of which the healing power of Nature is sufficient; and further, that the greater solidity of structure makes replacement on a large scale physically and chemically difficult. For, on the one hand, we see even in lower animals that aquatic animals, on account of containing a greater quantity of moisture, possess a greater recuperative power than land animals of

the same species, *e.g.*, water and earth worms. On the other hand, the chief mass of the animals capable of extensive restoration consists of the same tissues which in man also exhibit the highest recuperative power, *e.g.*, the tissues which mostly give solidity to invertebrate animals (skin, hairs, scales), cellular tissue, vascular system, or even the elementary organic substance of the lowest classes. That, however, these external grounds are not sufficient we see from the Vertebrata, for instance, in their second lowest class, the Amphibia, many of which exhibit a quite wonderful recuperative energy. Spallanzani saw among Salamanders the four legs with their ninety-eight bones, besides the tail with its vertebræ, reproduced six times within three months; in others, the lower jaw, with all its muscles, vessels, and teeth, was regenerated. Blumenbach saw even the eye restored within the space of a year, if the optic nerve remained uninjured, and a part of the coats of the eye remained behind in the orbit. In the case of frogs and tortoises the legs also are sometimes regenerated, but only as long as they are young, and even then but slowly. As the psychical power of the individual is at first active in an exclusively external manner, and then with the advance of age more and more withdraws inwards, and throws itself on the improvement of the conscious life of the mind; so also in all beings the *vis medicatrix* is the more potent the younger they are, accordingly greatest of all in the case of embryos and all larvæ, which must be regarded as embryos. We cannot, therefore, wonder that the same law obtains in the animal series as a whole, where in the wider sense the lower are related to the higher as embryos or imperfect stages of development.

A very remarkable case is the regeneration of the cerebral hemispheres, observed by Voit in a pigeon which had been deprived of its brain. After five months, the intelligence of the animal having manifestly increased during the latter part of that time, a white mass showed itself in the place of the removed cerebral hemispheres.

which possessed altogether the appearance and consistency of the white substance of the brain, and which also passed uninterruptedly and imperceptibly into the peduncles of the cerebrum, which had not been removed. Primitive nerve-fibres with double borders were clearly to be seen, also ganglionic cells.

If we now pass to the Mammalia, and to man in particular, we certainly do not find such striking phenomena as in the lower animals, but always enough to convince us that the dead causality of material processes is insufficient, and that it is a psychical power which, aided by the unconscious representation of the type, and the means requisite for the end of self-preservation, brings about those circumstances in consequence of which the restoration of the normal condition must ensue, according to general physical and chemical laws. In every disturbance this process occurs, unless the power of the unconscious will in mastering its circumstances is too small, so that the disturbance induces a permanent abnormity or death. No medicine can do more than aid that process and facilitate the mastering of the disturbing circumstances, but the positive initiative (the will) must always proceed from the organism itself.

Let us first consider the consolidation of severed tissues and the renovation of a destroyed surface.

The first condition of every new formation (except in the epithelial layers) is inflammation. According to J. Müller, inflammation is "compounded of the phenomena of a local injury, a local tendency to decomposition, and an augmented organic activity which energetically strives to maintain the equilibrium against the tendency to decomposition." What Müller calls the "local injury," Virchow calls the pathological stimulus. He says (Spec. Path. u. Ther., i. 72) :—"As long as only functional disturbances are observed to follow on an irritation, so long do we speak of irritation; if nutritive disturbances are observable in addition to the functional, we call it inflamma-

tion." He then further calls nutritive disturbance what Müller calls the local tendency to decomposition. Virchow insists quite specially upon the third factor, the effective activity of the inflamed cells. The most striking phenomenon in inflammation is the increased flow of blood to the part where the new formation is to take place, showing itself in redness and increased heat. The law, that the partially increased or diminished blood-pressure accommodates itself to the need of blood in the several organs, is hardly ever to be explained from physical causes alone, since the propulsive action of the heart is uniform in respect of the whole circulation. So far then as the phenomenon is not to be explained by the increased active absorption of the inflamed cells, there must be assumed a direction of the physical circumstances through the willing of the means to accomplish the represented end. (In the normal course of development, an increased congestion takes place at the age of puberty, during pregnancy, and in the abdominal vessels of the bird at the time of brooding; a diminution when the organs cease to be functional, or irreplaceable members have been lost. No less wonderful is the permanently fluid condition of the blood within the blood-vessels, whereas it immediately coagulates on issuing therefrom, even without coming in contact with air.)

In every section of the animal body vessels are cut through; these must first of all be closed, which takes place through the coagulation of the outflowing blood. In the larger trunks an inner and an outer plug is formed, which is easily detached soon after its formation, if the flow of blood is increased by external stimulation. In arteries, where the pressure of blood is considerable, the organism is sometimes helped by a swoon. The coagulated mass does not, however, enter into any firm union with the walls, but, like every means of relief employed at an earlier stage of the healing process which has become unnecessary, is subsequently absorbed. After about twelve hours, a

pale fluid (plastic lymph) is secreted, which generally immediately afterwards condenses to a membranous opaque neoplasm, which closes up the wound and becomes concrescent with the neighbouring parts. The neoplasm is not mere exuded blood serum, but a secretion from the blood of just as definite a character as any other fluid secretion. It is also no amorphous pulp, but a network of cells thoroughly permeated by copious intercellular fluid, and is formed by proliferation of the connective tissue which has been laid bare by the wound. It forms the matrix for every organic new formation, and blood-vessels, sinews, nerves, bones, skin, all proceed therefrom by gradual change of the cells. "The first step to healing then consists in this: Abundant cells come into existence by means of (?) inflammation, especially in the neighbourhood of the capillary vessels. These are changed by proliferation of their nuclei into cell-cones, and successful artificial injection of the blood-vessels proves that then *fine passages* without special walls are made between the new-formed cells, into which the injected mass *directly* penetrates *from the capillaries.* Accordingly there arises a provisional course for the blood, which presents the appearance of an *intercellular* net. The same process takes place from the opposite surface of the wound, and thus it happens that through the contact of these paths, several of which expand and become actual vessels, the disturbed circulation is restored to its normal state." (Dr. Otto Barth in the "Ergänzungsbl.," vol. vi. p. 630.) In this way, in the first instance only, the plexus of capillary vessels is restored; subsequently, however, also larger blood-vessels are brought again into connection after reabsorption of the plugs. In the Achilles' tendon of a dog, the regeneration of an excised piece, five lines in length, within four months has been observed, and in nerves from which a piece was excised, a gradual approximation of the two ends, with or without final union. Movement and sensation can in this way be restored with-

out the newly formed mass, even when it exhibits fibrillation, exactly corresponding to tendons and nerves proper, the correspondence being even less close in the case of muscle ; but the assimilation of the new formation to the old gradually increases.

When a tubular structure is severed, the neoplasm first forms an envelope, called a sheath or capsule, which by means of its vessels brings the injured part also into organic connection with the circumjacent structures. Thus, *e.g.*, in the case of the fracture of a bone, when the sheath hardens into the provisional callus. At the same time, both openings of the medullary cavity are closed by a similar callus, formed from the lining membrane of the bone. Meanwhile the terminal surfaces of the bone are so far involved in the inflammation of the circumjacent parts that they themselves pass into a state of inflammation, and can give rise to a neoplasm, which, as a whole, is slowly converted from a firm jelly into true cartilage, and then gradually ossified; although, according to Virchow, osseous or marrow cells can also arise directly from it, as, according to the same authority, all three, cartilage, bone, and marrow cells, may be directly converted into one another. Whilst this process is effecting the renovation proper, the expedients of the intermediate stages, the provisional callus, as well as the gelatine contained in the circumjacent parts, are softened and reabsorbed, the medullary cavity also restored, the dense substance of the callus becoming first cellular, then thinner and thinner, and finally disappearing. The bone recomposed in this way exhibits an uninterrupted connection with the old ends, and exactly the same formation in substance and vessels. An excavation of the radius and ulna of a dog six lines in length was completely filled with bony substance after forty days. If the inner layer of a piece of bone perishes, the regeneration begins from the outer one, and conversely, if the whole bone perishes, the membrane inside the bone and periosteum replaces it, after being first freed from bone.

Should these also perish, the piece in question is enclosed by a new piece, which is formed partly of the ends of the bone which have remained sound, partly of the surrounding soft parts.

In canals which are formed of mucous membrane, as the intestinal canal, or excretory ducts of glands, this neoplasm likewise forms a capsule or sheath, on the inner side of which the particular canal is re-formed, whilst the dead edges of the old piece are thrown off and carried away by the newly formed canal. In the case of displacement of the intestines or strangulated hernia, pieces of the intestine several inches, nay, even a foot in length, are often removed through the anus, and the digestive canals are restored. Is it possible that the rejection of a strangulated piece of intestine is regulated by another principle than that which governs the rejection of the claw of an injured crab, or the casting off of a spider's leg?

If the external surface of any structure is destroyed, it is replaced in the same way, and the process is, on the whole, a higher one than in the case of union of severed parts, because the catalytic action of the homogeneous adjoining tissue can exert far less influence. The neoplasm appears here in the form of granulations, *i.e.*, it is richer in vessels, and exhibits a number of reddish prominences. In this way new skin is formed on a part laid bare, which, at first, owing to the absence of a substratum of fat, lies closely on the muscles, but later on resembles the rest of the skin. Suppuration only occurs spontaneously, when the injury has been of such a kind that the parts of the tissue are to a great extent rendered incapable of continuing the vital functions (mortified), so that it is necessary to separate, *i.e.*, to reject, these mortified tissues from the organism, and to replace them by new formations (*e.g.*, in contusions, gunshot wounds, &c.) When this task is accomplished, the suppuration ceases as spontaneously as it occurred; when there are no parts to be thrown off, the

healing takes place "*per primam intentionem*," without any suppuration. It is true suppuration occurs only too frequently here also, just as in the former case the suppuration often continues beyond the requisite extent, sometimes even to exhaustion, but it is not then a suppuration which is spontaneously set agoing by the organism, but one produced and relatively maintained by injurious external influences, namely, through the germs of parasitic organisms floating in the air, which may make the slightest wound become malignant and fatal. The disinfection, by dressings of carbolic acid, &c., of the air thus reaching the wound obviates these injurious external influences, and thus experimentally proves the correctness of the above assertions.

Mucous membrane can change into epithelium if it is necessitated by abnormal circumstances to form an external surface (*e.g.*, in the case of prolapsed and everted rectum or uterus). In amputations the organism produces a stump which encloses all the hitherto existing canals (medullary cavity of the bone and vessels), and serves for the present use of the limb. The bone is well rounded off; the two bones of the fore-arm or leg, by growing together at the lower end, obtain the firm connection which is usually given by the wrist or ankle-joint; the vessels and the afflux of blood are limited to this now diminished need, and the stump forms a strong fibrous skin, which quickly scales. The fibrous structure of the stump also partially extends to the adjoining muscular fibres, nerves, and now useless vessels.

Let us now turn to some other remarkable phenomena of the *vis medicatrix* in man and mammals.

A complete regeneration of the crystalline lens has often been observed in mammals from whom it had been removed, and even in human beings couched for cataract an imperfect regeneration of the lens sometimes takes place. If after such an operation the upper lip of the wound of the cornea protrudes and cleaves to the outer edge of

the lower lip with its inner edge, both lips afterwards become soft and swollen, and, when the swelling is lost, both are found to be in the same plane. In this way the disturbing effect is obviated, which such an unevenness of the cornea would necessarily produce in respect of vision. When an osseous fracture cannot heal, the organism seeks to help itself in some other way. The fractured ends close and round themselves off, and are either kept together by a fibrous cord into which the callus-sheath has been converted, or by a cylindrical ligament, or united by a so-called false joint, the one end forming a cavity which receives the other spherical end. Both ends are enclosed by a fibrous capsule, and, like other places exposed to friction, receive the requisite lubrication by means of a newly formed synovial sac. A similar process takes place in limbs which have not been set; the abandoned socket is filled up, and at the place where the head of the joint now lies there is formed a new one with the other appurtenances of the joint.

Very remarkable is the formation of excretory passages answering a purpose, when certain secretions in the interior of a structure have no natural vent, and unless such were formed would destroy the organ. This is especially the case in all normal secretions, when the natural drains are stopped up; fistulæ are then formed by the nearest, or rather the most suitable path, making a way outwards (*e.g.*, lachrymal, salivary, bilious, urinary, fæcal fistulæ). They perfectly resemble the normal excretory ducts of the glands, in that the cellular tissue is converted at the walls of the passage into a mucous membrane *insentient to the particular matter* carried off. They cannot possibly be healed over so long as the natural outlet is not restored, but then they heal of themselves quickly and easily. One cannot see any material reason why this secretion, which is certainly obliged to establish an excretory channel through dissolving and liquefying the cellular tissues, effects this considerable destruction only *in the*

one direction of the channel, whilst on all other sides the attacks are proportionately too evanescent for the purpose; why the direction in which this violent chemical decomposition is manifested is precisely the *most appropriate* for the new drain, and why this drain shows not merely signs of destruction, but rather of organic reconstruction. Sometimes such channels, especially in the case of pus-fistulæ, extend through several other organs before they can reach the outside, *e.g.*, from the liver to the stomach or the intestine, or through the diaphragm into the lungs. This process is perhaps most remarkable in internal mortification. The excretory canals (or drains) then arise, if merely the inner layer of a bone perishes, in the vicarious external layer; but if this also perishes, in the new environing bony substance *from the very commencement of its formation*, and moreover, *without* suppuration being perceived. They are round or oval canals, lined with a smooth membrane, passing from the membrane inside the bone to the periosteum, open externally by a smooth edge, and are subsequently prolonged by means of a fistula to the outer surface. They cannot in any way be permanently healed over as long as dead pieces of bone lie within the newly formed bone, but close spontaneously when these have been removed.

Connected to a certain extent with the foregoing is the killing and shrivelling of the embryo, the evacuation of the remains by newly made paths, or the encysting of these remains when child-bearing is impossible.

Further worthy of note is the elaboration of a particular secretion by quite other organs than those properly concerned with this secretion, when the latter are incapable of performing their functions. The secretions, which play so great a part in the economy of the organism, are, as is well known, never present in the blood as such, but always only *in their elements*, and only during and after separation from the blood obtain their proper chemical composition (wherefore, also, the secretory courses are longer the higher

the nature of the secretion). We must therefore usually look upon the organs of secretion as the cause of the special chemical nature of the secretions. So much the more must it surprise us that, under certain circumstances, when this or that organ cannot perform its function, but yet the retention of those matters in the blood which heretofore were separated out of it by means of secretion might become dangerous to the organism, that under such circumstances other organs also are able to perform this act of secretion in an approximately similar way, and thus to secure the continued existence of the organism. The material expedients, which the unconscious will makes use of for this end, can only be looked for in a temporary change of the secreting membranes of the vicarious secretory organs, whereby they are accommodated to their vicarious secretions, just as we observe such an influence of the will on the secretory organs in terror, anger, &c.

Let us look at a few examples. Urine acts as such fatally in the blood; in the blood there are only its elements, but these, too, require to be excreted if the organism is not to be destroyed. In guinea-pigs whose renal arteries had been ligatured, peritoneum, pericardium, pleura, cavities of the brain, stomach, and intestines secreted a brown fluid redolent of urine; the tears also smelt of urine, and the testes contained a fluid very similar to urine. With dogs there ensued vomiting of urine; in rabbits, fluid discharge of the bowels. In men, whose sweat has possessed a decided odour of urine, post-mortem examination usually brings to light causes of suppressed urinal secretion. With persons in whom the ordinary passages have been completely obstructed, daily vomiting of urine has often been observed for years. In the case of a girl with such a constitution, evacuation took place through the breasts till her fourteenth year. In other cases of suppressed urination, urinal discharge showed itself through the skin of the armpits. Also in degeneration of the kidneys, when the

latter could no longer secrete urine, or when there was a want of connection with the bladder, normal micturition is said to have been observed for years, whence some would infer a vicarious capability of the bladder itself for the secretion of urine.—A great number of observations proves the secretion of lacteal moisture through the kidneys, the skin of the navel, the groin, thighs, back, ulcers, and peritoneum, on inflammation of the peritoneum which had arisen in consequence of suppressed lacteal secretion. In that mode of formation of jaundice where the action of the liver (as subsequently shown by dissection) has been arrested, the secretion of bile must take place in the minutest blood-vessels, since all the organs, even fibrous tissue, cartilage, bones, and hairs, are penetrated by the coloured constituents of bile.

A very remarkable phenomenon is the constancy of the temperature of warm-blooded animals under the most varied changes of external circumstances. We are far from being acquainted with all the circumstances whereby this constancy is rendered possible; but this much is certain, that the most efficient, perhaps the only, factors independent of the animal itself, are the regulation of the quantity of food, the excretions, and respiration. Now, since the constant temperature of a class of animals is manifestly that most favourable for its chemical processes, we must recognise an act of nature's sanative power in every act of the organism which accommodates the conditions to changing circumstances. The observation that the quantity of cutaneous as of pulmonary respiration (of carbonic acid and water) varies in brief intervals without perceptible cause, but in longer intervals of several hours remains pretty constant, is manifestly connected with this.

Noteworthy is the mechanical and chemical capacity of resistance on the part of living tissues, which immediately ceases with death. It is best observed in the stomach and intestines. The gelatinous Medusæ digest animals provided with spiny cuirasses without being

injured; the stomachs of birds comminute pieces of glass and bend iron nails without being wounded (for stomach-wounds notoriously heal very slowly, and would accordingly not easily escape observation). The intestinal canal of Plaice and Blennies is often entirely stopped up with sharp mussel-shells, and after death is cut through with a little shaking. As a greater mechanical solidity of the living tissue is not to be thought of, these phenomena are only explicable by reflex movements, in consequence of which the part threatened on occasion of a movement of the sharp object gives way, and the other parts bring the sharp object into a less dangerous position. Just as wonderful is the resistance which the stomach opposes to the chemical attacks of a particularly pungent gastric juice. There are examples where the degenerated gastric juice began immediately after death to destroy the stomach, and also decomposed a fresh animal's stomach, without any injury occurring during life. The like takes place in other acrid secretions and their secretory organs.

After these examples, let us proceed once more to the refutation of some objections to the *vis medicatrix* as a purposive manifestation of unconscious volition and ideation. Although I think that I have proved by many reasons the utter insufficiency of materialistic attempts at explanation, still it seems important once more briefly to indicate the unsatisfactory character of the two chief materialistic arguments. They run thus: (1.) The existing assimilates the freshly added material by catalysis and cell-growths; and (2.) the constitution of every secretion is dependent on the constitution of the nutritive fluid and the secreting membrane.

The first statement is refuted by the fact that new formations take place in the body at different times, which receive no assistance from similar tissues, because they either altogether, or at this particular part of the organism, appear for the first time, *e.g.*, at the different stages of embryonic development, birth, puberty, and

pregnancy. But besides the fresh formations and secretions, several secretions are periodical, whether normally or morbidly, and then also the recurrence of the secretion cannot arise from the contact of the secretion, since this is non-existent. In the same way the regeneration of solid structures is not directly dependent on the seat of development. Thus, *e.g.*, we have seen that the neoplasm for the required renovation of the bony mass has also in great part exuded from the other neighbouring tissues. In the same way mucous membrane is formed in fistulæ, and skin on granulations without contact with similar tissues. As little, then, as one can fail to acknowledge, on the one hand, that this principle of assimilation by catalytic action offers a remarkable expedient for husbanding energy in the economy of the organism, so little, on the other side, can the facts be ignored, which show that the unconscious will can produce a state of things in the organism wherein products may be formed according to chemical laws, which are not caused by adjoining similar tissues, but which are most accurately adjusted to the present life-stage or momentary need of the organism.

As concerns the second point, the dependence of the secretion on the secreting membranes, this principle is likewise in general correct; only one must not forget that the difference of the secretions of one and the same organ at different times, the fresh introduction of secretions at certain vital stages, the intermittence and recurrence of others, as well as the doctrine of vicarious secretions, still leaves open the question with regard to the inconstant character of the secreting membranes; that thus the phenomenon is correctly explained so far as its proximate efficient cause is concerned, but that this efficient cause, on its side, only admits one ultimate explanation, namely, an ideal one. With such provisional explanation the man of science has done his nearest duty, and nobody will impugn it, if he only grants that the question is just as open as before, if only he does not assert that he has

achieved *everything* by this proximate explanation, for then he immediately comes into collision with the facts.

Another objection is, that the procedure of the organism is not always suitable, but that the same phenomena which at one time effect a cure at another time produce disease, or aggravate an existing morbid condition. I hold this to be entirely untrue. I assert, on the contrary, in the first place, that diseases *never arise spontaneously* from the *psychical basis* of the organism, but that they are *imposed and thrust on it by disturbances from without;* and, secondly, that all the changes effected by the organism in the normal condition of its functions with direct reference to these disturbances are adapted to their removal; assertions which I shall at once proceed to make good.

The first question is, What is disease? Disease is not abnormity of form, for there are abnormal forms, as giants, dwarfs, excessive number of fingers, irregular course of veins, which nobody accounts diseases. Disease is not a state which endangers the continued existence of the organism, for many diseases do not do this. It is not a state which causes pain and trouble to the consciousness of the individual, for this, too, is not the case in many diseases. Disease is an *abnormity in the organic functions,* which certainly may have abnormities of structure both as cause and as consequence. In the former case we are wont to term even abnormity of structure disease. Taken strictly, however, another abnormity of the functions must have preceded this abnormal formation as its cause; for as long as all functions are exercised normally, the occurrence of abnormal formations is impossible. *E.g.*, phthisis may be caused by tubercles; these can be inherited, but in the individual from which the tuberculosis of the family takes its rise, the tubercles, in case they are not again inherited or grafted by contagion (through tuberculous nurse's milk, milk of tuberculous cows, inhalation of the products of decomposed pulmonary tubercles, &c.), must necessarily have arisen through abnormal functions. When thus we

investigate into the cause of a disease, we must in every case come back, in the last resort, to an abnormity of function with normal structure of the functioning organs; for as long as structural abnormities co-operate, we have not tracked the causal series to the end.

If we now ask how the primary cause of all diseases, *abnormity of function with normal structure*, is possible, experience and speculation agree in answering, Only through disturbance from outside, but not from within through a spontaneous psychical act of the organism. These disturbances may be of very various kinds:—(1.) Mechanical influences, as all kinds of inner or outer injury. (2.) Chemical influences, (*a*) through the introduction of substances which directly disturb the normal relations by causing new combinations, *e.g.*, in poisoning by arsenic, sulphuric acid, most mineral medicines; (*b*) through chemical contagion, infection in the widest sense, also by atmospheric changes which predispose to diseases not properly infectious. (3.) Organic influences, introduction of (microscopically minute) vegetable or animal organisms, which, feeding on the body and propagating, disturb the chemical composition or the morphological cell-structure of the affected organism. In many diseases it is still doubtful whether their infectious character is to be referred to chemical action by contact or to organic germs (*e.g.*, plague, syphilis, variola, diphtheria, typhoid fever, cholera, intermittent fever, &c.), although the latter is ever gaining more probability. (4.) Abnormity in the proportion of the ingesta and egesta. If the latter preponderate, there ensues loss of bulk, weakness, &c.; if the former, generally hypertrophy, which is manifested in different forms according to the matters in excess (tubercles, scrofula, gout, obesity, &c.) (5.) Unsuitable quality of the ingesta, producing disturbances in the digestive organs, and through abnormal composition of the blood also in the nutrition. Bad air can in this way, by altering the composition of the blood, produce putrid fever, &c. (6.) Im-

proper modes of living, *e.g.*, absolute inaction of a muscle produces weakness and atrophy, since its alimentation is based on the supposition of movement. Sedentary occupations disturb digestion on the same ground, and transference to a foreign climate demands accommodation of the body to the new environment, or is followed by disease. (7.) Inherited bodily defects or tendencies to disease. Here the primary external causes of the disease are to be found in the act of generation, where the transmission is effected, and all succeeding members of the family inheriting the disease receive at birth the fatal germs as their portion on the journey of life, which the remedial energy of Nature is just as little able to cope with, as a chronic illness directly aroused by outer disturbances.

I believe that all diseases may be referred to these or similar disturbances, if it be always at the same time borne in mind that one has to go back to the first cause of the phenomenon, and not to consider the superficial symptoms of the disease itself. Nay, even the latter is frequently already an act of the *vis medicatrix*, the crisis of a series of preceding diseases or abnormities, which are only more or less withdrawn from consciousness (thus, *e.g.*, in all eruptive diseases, gout, fevers, inflammations, &c.) The *vis medicatrix*, with its crises, sometimes even anticipates the outbreak of that disease which must result from an abnormity of formation (as, *e.g.*, in the killing and evacuation of the fœtus which could not be born); and so far it is correct that phenomena are called forth through spontaneous psychical acts of the Unconscious in the organism, which we term disease, because they are abnormal, and in part painful processes. In that case, however, they only obviate a more dangerous disease; they are the choice of a lesser evil intentionally called forth to avoid a greater one, and are thus, strictly regarded, processes not of disease, but of healing. It may also happen that death ensues in this spontaneously evoked crisis, because the

unconscious will does not possess sufficient power for getting the better of the disturbances; but then it would quite certainly have occurred without the test of a crisis, whilst there was the bare possibility of the *vis medicatrix* being victorious. Should some diseases still remain inexplicable as external derangements, this would not impair the correctness of the principle that the psychical basis of organic formation cannot become diseased, for almost all the facts tell in favour of this principle, and none against it, since the tracing back of the few exceptions to external disturbances may be expected from the science of the future. I cannot, therefore, adopt the hypothesis set up by Carus to explain the similarity of diseases, viz., that the IDEA of the organism is, as it were, seized and possessed by the IDEA of a disease. The fact seems to me sufficiently explained by the similar reaction of similar organisms on similar disturbances; and, in truth, the same disease never wears precisely the same appearance, but is at least as different as the individuals themselves. This circumstance alone tells against the above hypothesis, that no pathological formation has yet presented itself, which has not its prototype in normal physiological formations. Virchow says (Cellularpathologie, p. 60): "There is no other kind of heterology in morbid tissues than the improper mode of origination, and the impropriety consists in this, that a tissue is produced at a place or time when it should not have been produced, or in a degree which deviates from that of the typical form. Every heterology is then, more exactly characterised, a heterotopy, an *aberratio loci,* or an *aberratio temporis,* a heterochrony, or, lastly, a merely quantitative deviation, heterometry." The theory of ideal types of disease, which take possession of organisms, could only have a certain figurative authorisation where animals or plants are the causes of disease, as in prurigo, rot, corn-blight, &c., *i.e.*, in the science of parasites, in the modern sense of the term.

As concerns the so-called mental diseases, the tradi-

tional, and, in spite of opposition, still generally accepted view, is, that every disturbance of conscious psychical action is produced by a disturbance of the brain, as the organ of consciousness, whether this cerebral disturbance be brought about directly or through disease of the spinal cord and nerves. Even where psychical shocks bring on mental disease, we must probably assume a cerebral diathesis, mostly inherited, which is only revealed by such an exciting cause. Without doubt, even in these cases, a disturbance of the brain is to be assumed as the cause of the disturbance of consciousness, this disturbance of the brain being provoked, indeed, not by a material, but by a psychical shock, but at all events produced by an external influence, of which the conscious mental states are only reporters and interpreters. The proposition *that the Unconscious itself neither falls sick nor can produce sickness in its organism,* but that all sickness is the result of a disturbance from without, thus remains unimpeached.

As for the second point, the doubtful propriety of the precautions of the *vis medicatrix* against disease, the most important factor, which must not be left out of sight, is the limitation of the power of the will in mastering its circumstances. If the will of the individual were omnipotent, it would not be finite and individual; accordingly there must be disturbances which it cannot get rid of. As now the points in the organism which the will can lay hold of are likewise very limited, *i.e.*, its power has very different limits in different parts, a preconceived end must naturally often be reached by the most wonderfully circuitous paths, so that the representation of the end with the means employed by the organism often entirely escapes the unpractised eye, and is only understood by the profounder glance of science, which perceives the impossibility of shorter cuts to the goal. As now scientific Physiology and Pathology are still so young, one need not be surprised if they even yet have only penetrated a very little way

into the operations of organic life, and if they must often have to put up with a guess concerning the multitude of connecting links, but also, and more frequently, fail to settle the question whether there might not have been a still more appropriate course than the one actually chosen. Every perceived adaptation is proof positive of psychical action not to be invalidated, but a thousand ill-understood connections of cause and effect can afford no negative argument against the existence of a psychical basis. This is by no means, however, the state of the case, but in almost all instances where we see a manifestly unsuitable action on the part of the organism, we can render a satisfactory account of the phenomenon. The spontaneous origin of disease, which might also have been included in the list, has been already dealt with. A great number of other cases are accounted for as follows:—The means offered for getting rid of the disturbance do not conform to the intentions of the organism, because disturbances from other quarters prevent this, so that by a second malady the efforts to suppress the first are rendered fruitless. This case is of very frequent occurrence, only it is often difficult to discover the second disturbing cause, which may be very deep-seated, and at the same time be very insignificant in itself. In the last resort it is then always again the insufficient power of the individual will (in the present instance in setting aside the second disturbance), whereby the means applied are misdirected, and do not lead to the goal. A special case of insufficient power is when, on a particularly intense strain in a certain direction, the will is not able to keep within definite bounds. Thus, *e.g.*, in the healing of a broken bone, when an active tendency to the formation of bone is required, the surrounding portions of muscle and sinew mostly become ossified also; but in that case the organism afterwards repairs its error as far as possible; thus, in the present instance, the ossified contiguous parts are reduced after healing to their normal condition.

How limited is the power of the individual will is also shown by the following example:—During pregnancy, when the unconscious will must be concentrated on the formation of the child, occasionally osseous fractures will not at all heal, whilst after a successful delivery they heal quite well.

The last possible objection would be this: The appropriate reaction follows on every disturbance in virtue of a mechanism provided for the creature, without the participation of the individual pysche. Whoever has followed my exposition thus far will require no refutation of this. We have seen the impossibility of a material mechanism; that of a psychical one is evident to any one who weighs the endless multiplicity of the disturbances which occur, and considers that the function of each single organ, as of the whole body, is no other than that of ceaselessly warding off and neutralising approaching disturbances, and that only in this way is existence maintained. Accordingly, if the fitness of these compensations for the purpose of self-preservation be once granted, it is impossible to avoid the idea of an individual providence, for it can only be the individual itself that conceives the purpose according to which it acts. The truth which emerges so clearly in this and the foregoing chapter cannot fail to reinforce the refutation of the same objection in the case of Instinct, since we have already recognised a fundamental resemblance. It would be folly to suppose a special instinctive faculty, a special faculty for reflex movement, a special faculty for the *vis medicatrix*, since in all these phenomena we have perceived nothing more than an adaptation of means to an end unconsciously presented and willed, and it is only the different kinds of exciting external circumstances that call forth different classes of reactions, whereby, however, the differences are not so pronounced that they do not shade into one another. That the healing operations in the organism are not results of conscious thinking and willing will be doubted by nobody who reflects how

small a share his consciousness has had in the healing of a wound or a fracture; nay, the most powerful curative effects take place at the time when consciousness is as far as possible in abeyance, as in deep sleep. To which may be added, that the organic functions, so far as they are at all dependent on nerves, are regulated by sympathetic nerve-fibres, which are not directly subject to the conscious will, but are innervated by the ganglionic centres from which they spring. If, nevertheless, there reigns in the organic healing functions so wonderful a harmony tending to a single goal, this can never be explained by the material inter-communication of these different ganglia, but only by the unity of the over-ruling principle, the Unconscious.

VII.

THE INDIRECT INFLUENCE ON ORGANIC FUNCTIONS OF CONSCIOUS PSYCHICAL ACTIVITY.

1. The Influence of the Conscious Will.

(*a.*) *Muscular Contraction.*

Muscular contraction is manifestly by far the most important organic function dependent on conscious volition, for it is that whereby we move and act on the external world, through which we communicate in speech and writing. It takes place through the influence of the motor nerves, by a nerve-current flowing from centre to periphery, a current which is evidently related to the electrical and chemical streams, as we find them to be convertible, and of whose intensity we can form no mean idea when we see the contracted muscles of the athlete, attached to the long lever arms of the limbs, moreover, sporting with hundredweights, and then consider what colossal galvanic currents would be required to lift such a load with an electro-magnet. We have already seen that any muscular movement is explicable only by the repeated intervention of unconscious volition and thought, because otherwise it would not be apparent, how the motor impulse could affect the part of the nervous centre answering to this consciously represented movement rather than any other. We have further seen that the more immediate centres for most movements lie in the spinal cord and medulla oblongata, and that these movements are there so determined

and ordered that they are to be looked upon as reflexes of these centres, occasioned by the stimulus of a relatively small number of fibres proceeding from the cerebrum, so that the first motor impulse must be referred to the central endings of these fibres in the cerebral hemispheres. It may well be that several of such reflex actions take place in different nerve-centres more and more remote from the brain before a complex movement is executed, that, *e.g.*, in walking, at first some few fibres carry the impulse over from the cerebrum, where the conscious will to walk arises, to the cerebellum (the organ which is said to co-ordinate the larger motor groups), that then from there a larger number of fibres carry forward the impulses to different centres of the spinal cord, and finally to the crural nerves. On occasion of every such reflexion the unconscious willing and conceiving of the specific motor instinct of the particular centre chimes in, and thus it becomes explicable how such complex movements run their course appropriately and orderly without any mental effort whatsoever. In every centre the impulse is felt as stimulus and converted into a new impulse, so that in the strictest sense we can only speak of the motor nerve-current from the last centre.

The question now arises, how the will is able to produce the innervating current. We can only fall back on the analogies of the related and (physically) better known currents, and on the *a priori* suggestion, that the entire apparatus of the motor nervous system has probably been inserted in the organism with the object of making it possible for the will to produce the necessary mechanical effects with the smallest possible mechanical effort; in other words, that the motor nervous system is a mechanical power like the winds, or more truly as the wall-shattering ordnance, to which the individual man has only to apply the match. To produce mechanical motion without mechanical energy is impossible, but the energy which ushers in the movement may be reduced to a

minimum, and the remaining part of the work can be handed over to forces previously stored up for use. In artillery this is the chemical energy of the powder, in the animal that of the food, which therefore must stand in the same relation to muscular energy as the quantity of powder to the force of the shot. Without *some* mechanical energy, however, the stored-up forces cannot be liberated from their imprisoned state; accordingly the will must, at all events, be made capable of performing mechanical work. If, however, the quantity of this energy were of no consequence, it could put the muscles into motion directly; we must therefore assume that the critical point of the motor system consists in this: How to reduce the necessary mechanical performance of the will to a minimum,—somewhat as the regulating of the levers by the engineer represents a minimum of effective energy in relation to the performances of the steam-engine.

Looking now at the current which doubtless has most affinity with the nerve-currents, viz., the electrical, we must, in the first place, exclude the mode of origin by mechanical influences (as friction) or heat, because the former would be just the opposite of what we are in search of, and the latter likewise consists of vibrations with considerable mechanical oscillation of the atoms. We must in any case disregard modes of production which depend on displacement of the molecules, and keep to such as require only a rotatory motion of the same, since rotation requires infinitely less application of force than displacement. Here the results of nerve-physiology come to our aid, which show that, whilst the motor-current is traversing the nerves, all the molecules of the latter exhibit an electrical polarity in the same direction, as in the magnet, whilst in the completely indifferent state (which, it is true, does not occur during life) the polarities of the molecules have no definite arrangement, as in non-magnetic iron, and thereby neutralise one another. We learn from these experiments that the nerve-molecules possess polarity, and

that the poles, by rotation of the molecules, may be brought into the same direction. As the iron rod, surrounded by a wire, becomes magnetic as soon as a galvanic current traverses the wire, so, if in any way the iron were suddenly magnetised, a galvanic current would be called forth in the wire. In an analogous way, through rotation of the molecules, so that their polarities are turned in the same direction, is a nervous current produced.

We see in Physics that the polar oppositions of the molecules are the foundations of all the phenomena which we designate chemical, galvanic, frictional-electrical, magnetic, &c.; we have therefore no reason to doubt that many similar phenomena have the same origin, and that one of these is the nerve-current. The rotation of the molecules in the centres is thus the minimum of mechanical work, which is left to the will, and the polarity of the nerve-molecules is the reserved mechanical energy, which liberates the store of mechanical power in the muscles, which is exhausted by prolonged activity, and is again restored in repose through the chemical replacement of material. Thus every organism is comparable to a steam-engine; it is, however, also at the same time stoker and engine-driver, nay, repairer also, and, we shall subsequently see, even its own fabricator.

As the mobility of the molecules is in all respects greater in the fluid state of matter than in the solid, nerves are semi-fluid; but as, when encountering an external shock, the molecules of fluids do not keep their places, but are subject to considerable displacement, nerves are not quite fluid; and hence structures, which carry on operations analogous to the nervous, are the better fitted for their work, the more they possess such a semi-fluid constitution as well as polarised molecules. Accordingly the gelatinous bodies of the lower aquatic animals, all animal germs, the plastron, the earlier embryonic conditions, the clotted neoplasm, once in a state of plastic fluidity, from which all new formations of the *vis medicatrix* proceed,

and the protoplasm of the lower and higher plants, are adapted to this purpose. The first principles of nature being simple, we cannot doubt that also all other effects of conscious or unconscious will in organic nature depend on the same principle of molecular polarisation, especially as the constitution of the structures, in which the will is most directly manifested, is confirmatory of this supposition. Thus we cannot otherwise figure to ourselves the influence of the will in chemical processes, as in new formations from neoplasm or in the development of the embryo, than as a skilful use of the polarity of the existing molecules, partly in the heart of the formation itself, partly by means of currents conveyed to that quarter, which are generated elsewhere.

We at the same time rise above the view that the nerves *exclusively* possess the capacity of conveying the determinations of the will, with respect to which there has been so much dispute. Both the analogies of nerveless animals, as well as the neoplasm and embryo, prove the possibility of voluntary action and sensibility without nerves; but this does not preclude the view, that the nerves are the highest kind of tissue known to us which the will has created to facilitate its action, and that the organism furnished with nerves would as little avoid the employment of the same to mediate its voluntary manifestations, as any one would drive across country instead of along the road. It is, moreover, clear from the foregoing that the power of the individual will could effect infinitely less with the same amount of effort, if the power-engine of the nervous system were not at its command. (Think of the efforts of incompletely paralysed bodily parts.) It would be, however, very hazardous to fix a limit for the exercise of will without the aid of nerves, since the intensity of volition in a certain direction and for a short time can occasionally prove a substitute for an auxiliary mechanism. I shall not point to examples of magic (turning of the magnetic needle by the mere will of the

magnetiser and so forth), because they need stronger attestation for scientific purposes; but various circumstances prove clearly enough that the sphere of action of the will, as well as of sensibility, extends even in Man beyond the range of the nerves. For example, the sudden turning grey of the hair on a violent emotion; the ramification of the motor nerve-fibres in the muscles, according to which the muscular fibres themselves must be conductors of the motor current; the sensibility of the skin throughout its entire surface, whilst the tactile papillæ underlie it only here and there; the action of the nerves on the secreting membranes in their whole extent, whilst the nerves can only touch limited parts; further, the circumstance that even nerveless parts of the human body can be rendered sensitive and painful as soon as their vitality, *i.e.*, the mobility and polarity of their molecules, is increased, owing to accelerated flow of blood and relaxation of tissue; thus, *e.g.*, the new flesh formed in healing wounds is in the highest degree sensitive without any nerves, and inflammation of nerveless cartilage and sinews is even much more painful than inflammation of the nerves themselves. Lastly, examples of embryonic malformations show that parts may be formed without the co-operation of the nerves leading to them, *e.g.*, skull-bones without brain, spinal nerves without spinal cord.

(*b.*) *Volitional Currents in Sensory Nerves.*

One kind of innervation-current we have already become acquainted with as the Reflex Action of Attention. It may, however, be just as well called forth and strengthened voluntarily. The concentration of attention on the organs of generation may be followed by the greatest sexual excitement, and hypochondriacs sometimes feel pains in every part of the body to which they direct their attention. It is said not unfrequently to happen that persons about to be operated on imagine they feel the pain of the

puncture before the operator's instrument has actually touched them. If, when the eyes are closed, a finger be slowly brought to the tip of the nose, and the approximation be very gradual, just before actual contact the imaginary contact is experienced as a sort of itching feeling. If I earnestly concentrate my attention on my finger-tips, I become aware of a distinct sensation therein, a kind of tickling also. In all these cases manifestly the presentation in the brain of the expected sensation, combined with the attention directed to the particular nerves, produces a peripheral current, which returns from the periphery to the centre as current of sensation, whether, as in the first examples, the sensation be essentially produced only by the centrifugal current, or, as in the last example, the current only strengthens the ever-present stimuli, which are usually too weak to be perceptible.

The first case also occurs on occasion of every sensuous perception without sense-impression. The vividness of the idea depends on the strength of the peripheral nerve-current, and this again partly on the interest (participation of the will) in the idea, partly on the individual disposition. There are persons who by voluntary effort can call up visual images, *e.g.*, of a friend, almost with the distinctness of a vision. In others the images always remain pale. If the volitional current flows unconsciously, the recurrent stream of sensation, when sufficiently vivid, presents itself as vision, just as in every dream. I therefore believe that there is no sensuous mental representation in the brain, which is not bound up with a current of innervation towards the particular sense-organ, although such current may not usually extend far beyond the central ending of the nerves of the organ. I think we must conclude this from the fact that the vision only differs from the actual sensuous presentation in degree, wherefore its mode of origin will likewise only differ in degree. We may also assume that the current of innervation radiates from centre to periphery, and approaches ever nearer the sense-

organ itself as the sensuous perceptions are more vividly represented; for persons who perceive indistinctly and weakly feel the strain of attention (which certainly is only a reflex strain of the cutaneous muscles) in the upper part of the head. The greater the faculty of sensuous perception, the more, when attempting to form visual images, does this feeling of tension descend towards the forehead, in the extreme case reaching the eyes themselves, so that the latter feel just as fatigued after a persistent effort of imagination as after a long, steady gaze.

(c.) *The Magnetic Nerve Current.*

The fundamental phenomena of mesmerism or animal magnetism are at length to be looked upon as scientifically accredited. The electrical discharges of the electric ray and eel have long been notorious, and the perception that these effects proceeded from the grey nervous matter was in the main the occasion of the latter being regarded as the essential part of the nervous system. Nevertheless the admission of the perfectly analogous effects of the magnetisers was long resisted, because they were on the whole too weak to be distinctly perceptible to the physicist. I have, however, been repeatedly present at these experiments, and have secured myself from the risk of deception by the most careful investigation of the locality as well as of the person of the magnetiser. If the patient be placed upon an iron bedstead provided with a wire mattress, but in such a way that he is isolated from the metal by a woollen covering, a Leyden jar is in a certain measure produced, of which the bedstead forms one coating, the person lying thereon the other, and by the concurrent flow (influence) of the electricity of the bed towards the isolating surface, the electrical effect of the magnetisation is considerably enhanced. I have allowed myself to be magnetised in this way, and have distinctly perceived an emission of sparks causing a prickling sensation from the

hand of the magnetiser as it gently touched my skin, as if through his touch the chain of a weak induction current or of a rotating electrical machine were closed, but more irregular, according to the fluctuating exertion of the magnetiser. Whoever is acquainted with the feeling will know that it is hardly possible to mistake it. Any one that has ever known the skin-sensation thus produced, can without further trial distinguish with certainty the contact of a magnetising hand (the agent exerting sufficient pressure) from a non-magnetising contact, as I have had occasional opportunity to observe in my own person. Apart from the artificial increase of the electrical effect, the nerve-strengthening and vivifying power of mesmerism, stimulating all the vital functions, is well known, as well as the induction of wholesome sleep, and of favourable crises during the same.

Although the electricity in these phenomena may be only a concomitant or a peripheral conversion of the proper magnetic force, it is still in any case related to these physical forces and the motor nerve current, and probably arises, like the latter, through the alteration of the polar condition of the molecules in the centres. It is, like movement, an indirect effect of conscious will (sometimes also, in the imposition of hands of saints, miraculous cures, &c., quite unconscious), but what exactly, *i.e.*, directly, he does, and how he does it, the magnetiser knows as little when magnetising as on lifting his arm. There intervenes then here, as in all other descriptions of movement, an unconscious will, which brings it about that a magnetic current and no other arises, and that this is concentrated in the hands, and not in any other part of the body. (In order to become acquainted with this group of phenomena in its whole extent, Reichenbach's "Odic-Magnetic Letters," and his larger work, "Sensitive Man," should be consulted.)

(*d.*) *The Vegetative Functions.*

Sympathetic nerve-fibres probably regulate all the vegetative functions of the organism. Conscious will has no direct influence upon them, but we have seen that this is not the case even with the motor and sensory fibres, but that the direct agent is always an unconscious will. If now the conscious will has any influence at all on vegetative functions, the cases are parallel, and the difference can only lie in the degree of facility with which, through the conscious willing of any effect, the unconscious will is evoked to institute means to bring about this effect. Thus, *e.g.*, if I will a stronger salivary secretion, the conscious willing of this effect excites the unconscious will to institute the necessary means, namely, it generates such currents in the sympathetic fibres which lead from the ganglionic endings to the salivary glands as produce the intended effect. This experiment will succeed pretty well with anybody. In like manner the formation of the secretions in the organs of generation is subject to the conscious will, which, when combined with the above-mentioned voluntary excitement of the related sensory nerves, may even lead, in the case of irritable persons, to ejaculation without mechanical stimulation. Mothers are said to be able to produce through this will a more copious lacteal secretion, if the sight of the child arouses in them the will to suckle. The ability of many persons to blush and to grow pale voluntarily is well known, especially in the case of coquettish women, who make a study of it; and there are, likewise, people who can perspire voluntarily. I now possess the power of instantaneously reducing the severest hiccough to silence by my mere will, whilst it formerly was a source of great inconvenience to me, and frequently would not yield to all the ordinary means. That a pain, *e.g.*, toothache, may sometimes, through an energetic effort to subdue it, be soothed or put an end to, is well known,

notwithstanding that, through the requisite attention, the pain is in the first instance increased. In the same way an irritation to cough, which has no mechanical cause, may be permanently suppressed. There have always been people, who have exercised a remarkable power over their bodies, professed jugglers, and such as have cultivated their will-force in other directions, philosophers, magicians, and penitents. From the evidence of these phenomena, I believe that we might possess a far greater voluntary power over our bodily functions, if we had only as much occasion from childhood upwards to institute experiments and to practise ourselves therein as is necessary in the case of muscular movements and mental images; for as children we know as little how to set about bringing the spoon to the mouth as how to increase the salivary secretion. At the same time, however, it is evident that the connecting of the conscious and the unconscious will has been purposely made difficult in this department, because the intervention of the conscious will would generally only be injurious to the vegetative functions and not make matters better, and by such occupation would be uselessly diverted from its proper sphere of thought and external action.

2. The Influence of Conscious Ideation.

The conscious idea of a definite effect can often, without the conscious will, excite the unconscious will to employ the requisite means, so that the realisation of the conscious idea then appears involuntary. Physiology, which is obliged to take notice of these facts, but does not possess the conception of the unconscious will, sees itself driven to make the absurd assertion, that mere idea without will can be cause of an external event. But if one reflects upon it, one finds that nothing more is in fact thereby affirmed than that the notion "Idea" is in these cases imperceptibly widened to the conception "unconscious

will," as discussed in Chap. iv. A. pp. 124, 125. I therefore do nothing more than call this unobserved extension of the general notion Idea by its right name, and represent it as an independent link in the process, since it must be manifestly inadmissible to introduce into a notion already established the marks of another equally fixed notion in addition to its own.

In the first line are ranged gestures and looks taken in the widest sense. In the idea which calls forth the look the effect is not at all included, to say nothing of the means for its production; but the gestures entirely present the appearance of reflex actions, so invariably and uniformly do they follow in all individuals. How conformable to a purpose they are is certainly clear, since without the necessity and universality of the gestures nobody would understand them, and without previous understanding by gestures a word-language would never have become possible, and dumb animals would be deprived of every means of understanding one another; even by far the largest part of those endowed with voice would be deprived of their language. But even among men, wherever we mistrust the speech, we still hold to the expression of the speaker. I dispense myself from an enumeration of the phenomena in question, which may be gleaned from many sources.

Mimetic movements, which are manifestly likewise reflex actions, form the second group of the phenomena. When we see an orator hotly declaiming, or when we look on at a duel, a fencing-match, a bold leap, or a dance, and are greatly interested in the affair, we make similar movements ourselves, so far as our attitude allows, or at least feel the impulse to make similar movements, even if we suppress it. In the same way the natural man is prone to sing the melody which he hears played. If we see anybody yawning, it is very difficult to avoid yawning ourselves; and even more extensive convulsions, as St. Vitus's dance, epilepsy, often act infectiously on suscep-

tible persons through the mere view of them; nay, they can even become complete epidemics of a sect or a tribe. Since in all these cases it is no material influence which forms the bridge, it can only be the idea of these movements which is so vividly excited by the spectacle that it rouses the unconscious will to execute them. Inasmuch as this process takes place within a nerve-centre, and the last effective act of will probably also becomes conscious in this centre, it comes under the notion reflex movement.

The next group contains the influence of conscious representation on the vegetative functions. The influence of the most dissimilar emotions on the functions of secretion are well known (*e.g.*, vexation and anger on bile and milk, terror on urine or stool, voluptuous pictures on the semen, &c.) The idea of having taken medicaments (*e.g.*, laxatives) often acts just as well as the medicaments themselves. The imagination of having been poisoned may actually produce the symptoms of poisoning. Many Christian enthusiasts in the days of the martyrs really felt the martyrs' pains, as hypochondriacs really feel the diseases which they fancy themselves to have, and as young doctors sometimes think they have all possible diseases of which they hear. (There is a remarkable story told of one of Boerhave's pupils, who was obliged to give up the study on this account.) The surest way to be taken with an infectious disease is to be afraid of it, whilst the physician under like circumstances is very rarely attacked. Lively fear and the thought of sickness is of itself sufficient to cause the same, without any infection, especially if it be heightened by the terror of incurring risk. Throughout the whole of the Middle Ages there occur reports of wounds and bleedings in ascetic enthusiasts, and we have no reason to refuse credence to these accounts, when German, Belgian, and Italian physicians of the present century attest as eye-witnesses[1] spontaneous bleeding at

[1] See Salzburg Medical Journal of 1814, i. 145–158, and ii. 17–26: "Account of an Unusual Phenomenon in the Case of an Old Patient,"

certain times. Why should not blood-vessels, if they permit blushing and occasionally allow blood-perspiration, so far dilate as to allow of bleeding through the skin?

Similar cases occur even in secular life. Ennemoser relates as a well-attested story a case where the strokes of a soldier condemned to run the gauntlet are said to have afflicted the body of his sister with like pains and external cutaneous marks. The much-doubted fright of the pregnant likewise belongs here. Most physiologists reject the facts without more ado because they cannot explain them. Burdach, Baer (who relates the case of his own sister), Budge, Bergmann, Hagen (the two latter in Wagner's "Handwörterbuch") thoroughly admit the facts; Valentin, at any rate, does not dispute their possibility in general. J. Müller admits the fright of the pregnant in so far as it is said only to produce arrest of formation, but not as respects the effecting of changes at particular parts of the body. But now, on the one hand, almost every arrested formation is a merely partial one, and, on the other hand, we have so many examples, both of the inheritance of quite partial marks, moles, as well as of partial changes in our own body (as fancied effect of poisons or drugs, wounds of stigmatics), that there is no reason to doubt such partial influence of the maternal mind on the soul of the fœtus, the latter being still in process of organic formation. Whilst I thus recognise the fact of the "fright" of the pregnant, I by no means doubt that nine-tenths of such stories are nonsense, but in strictness very few well-attested cases would be sufficient.

A great number of sympathetic or miraculous cures are allied to the occurrence of signs of poisoning after imaginary poisoning, and to the effects of drugs without any having been taken. As in those cases the idea of the effect evokes the unconscious will to procure the means, and

by Medical Counsellor and Professor v. Druffel at Münster. Further: "Louise Lateau, sa Vie, ses Extases, ses Stigmates." Medical study by Dr. F. Lefebvre, Professeur de Pathologie générale et de Thérapeutique à Louvain. Louvain, Ch Peters, 1870.

thereby the effect itself, so also here. What is peculiar to the case is the question in what way the unconscious willing of the means is produced through the idea of the effect. The conscious willing of the effect does not seem essential, for in the case of the fright of the pregnant, and in the occurrence of effects which are even dreaded, the conscious will can only be contrary, not favourable, and yet the unconscious will and the effect make their appearance. On the other hand, another factor is indispensable in that part of the phenomena which proceeds from the *personal* will of the individual, and not (as with mother and fœtus) magically through another will, namely, the belief in the occurrence of the effect; for, as Paracelsus finely says, "Faith it is which locks the will." Where, therefore, the conscious will makes a show of opposition with the belief in its own power of resistance, there faith calls up an unconscious will which hinders the effect of the first idea. The question is only, which faith is stronger, that in the occurrence of the effect, or that in one's own power of resistance, according as the unconscious will inclines to the one or the other side? The art in such cures is then only this: to inspire the belief in success, and because men do not perceive this connection, perhaps also such rational belief would be too weak to be effective, over-faith must procure faith, and for that purpose all sorts of hocus-pocus are employed. Of the unconscious will the word holds literally true: "The more will, the more power;" and this is the key to magic.

VIII.

THE PLASTIC ENERGY OF THE UNCONSCIOUS.

In the preceding sections we have not altogether been able to avoid anticipating the theme of the present chapter. This was owing to the intimate connection of the subjects successively treated with the principle of organic formation, being indeed at bottom illustrations of the same, so that the attempt to make any sharp division would only have resulted in the omission of some very remarkable phenomena. We have seen that the term which covers the larger number of facts is that of Instinct; but one may almost as easily include the phenomena under the notion of Reflex Action, for an external stimulus must always be present, upon which action almost of necessity follows, although the reflexes may be of a considerable degree of complexity.

Equally well, however, may all the phenomena in dispute be regarded as effects of Natural Therapeutics, for only when the external stimulus is some extraneous opposing substance can it act as a stimulus, otherwise it is uninfluential. The subduing of the material is, however, an act of the *vis medicatrix.* The special character of the formative principle would then have to be referred to the realisation of the Idea of the species at the appropriate stage of life, whilst Nature's remedial power would consist in the conservation of the realised Idea. It is obvious, however, that, on the one hand, the warding off of a disturbance is only possible by means of new formations, *i.e.,*

that the realised IDEA cannot maintain itself except by development, by the realisation, that is, of a new stage of the IDEA; and, on the other hand, that the realisation of a new stage of the IDEA involves a series of struggles and self-preserving acts. This is so because all points of the organism are threatened with disturbance at every moment; and therefore, in the third place, the moulding and constructive instincts, no less than the plastic energy within the body, work according to fixed ideas, which must be unreservedly looked upon as integral elements of the Idea of the class. Nay, in the wider sense, all other instincts must be conceived as realisations of special aspects of the type; for the typical idea of the nightingale would be incomplete if the particular note were omitted, as that of the ox without butting, or that of the wild boar without the gnashing of the tusks, or of the swallow without the semi-annual migration.

It accordingly only remains for us, in the first place, to make a few remarks with respect to the appropriateness of the organising impulse, and, secondly, to show how the instances of the plastic energy shade imperceptibly into the previously considered manifestations of the Unconscious.

As concerns the adaptations of organic life, on the one hand, goodly volumes might be written on this point alone, and, on the other, the greatest caution is required with respect to teleological considerations in detail, teleology having already fallen somewhat into discredit, owing to the numerous ends that have been foisted on Nature by self-conceited minds, which not seldom verge on the ridiculous and absurd. We can therefore only here throw out some brief hints, which the rather suffice for our purpose as at the present day the knowledge of every educated person is sufficient for their elaboration.

I start from this — that the raising of consciousness presents itself as the purpose of the animal kingdom. Whether one seeks the end of this clearer consciousness

in an increase of enjoyment, or of knowledge, or finally of an ethical moment, the elevation of consciousness always remains the direct end of all animal organisation (comp. Chap. xiv. C.) Why, generally, the embodiment of the mind should form the condition for the origin of consciousness we shall see later on (Chap. iii. C.), but the question we have now to ask is, Why this separation of organic Nature into animal and vegetable kingdoms? The first reason is that for the conversion of inorganic into organic matter, and of the lower into higher organic combinations, there is required such an exertion of unconscious psychic force that *the same* individual possesses no further energy for inward growth, because its force is used up in the vegetal processes. Only when in the main no further advance in the organic chemical composition of matter is required, but on the average a mere maintenance at the stage already attained, or a mere direction of the spontaneous tendency to relapse to lower stages is desired, only then does the individual retain the necessary surplus energy to form the pre-existing matter into the artificial structure of the organs of consciousness, and to urge on the process of inward mental development to the utmost. Hence the separation of Nature into the producing vegetable kingdom and the consuming animal kingdom. But now producer and consumer might still be conceived united in a single being, the vegetable half of the organism *forming* the materials, by the *use* of which the other animal half develops its consciousness. The second reason for the separation of animal and vegetable kingdom is opposed to this, however. Namely, it is evident that an animal bound to the soil on which it grows (as the transitional forms of lower aquatic animals to the vegetable kingdom show) is capable of no extensive experience, and thereby of no higher mental development; locomotion therefore becomes imperative as a condition of a higher stage of consciousness. But now, if the materials of which organic matter is formed (*i.e.*, matter alone fitted to support a

higher consciousness) must for the most part be drawn from water permeating the soil, and an underground absorbing surface of considerable extent (root fibres) is necessary for this purpose, it is clear, that no creatures of the higher grades of consciousness can directly arise from inorganic nature, since locomotion is impossible with such a subterranean arrangement. We see, then, the reason for the mobility of animals and the stability of plants, and in general the ground of a division of the two kingdoms.

Animals must then seek their food, and need for that purpose not only motor organs, but also organs to enable them to distinguish between the substances appropriate and inappropriate for their nutrition, and to execute their movements with accuracy. These are the organs of sense. Further, the organism can only assimilate matter by absorption; this must therefore be in a liquid form. The food of plants is already in this form, but that of animals is generally met with in a solid condition. These must therefore have organs in order to bring this solid food into the fluid state. This purpose is served by the *digestive system*, with its comminuting organs (mouth and stomach), its dissolving juices (saliva for conversion of starch into sugar, gastric juice for solution of albuminous matter, bile for partial saponification of fat, and pancreatic juice for all these purposes taken together), its long canals, and, finally, with its orifice for the evacuation of indigestible matters. The chyle vessels which absorb the chyme are the root-fibres of the animal. Since, on account of its incomparably greater dynamic performances, it consumes far more matter than the plant, provision must be made for a more speedy replacement. This purpose is served by the system of the *circulation of the blood*, which constantly supplies to all parts of the organism new materials in the most appropriate form for assimilation. As the chemical process in the animal is essentially a process of return to an earlier state, *i.e.*, a process of oxidation,

provision must be made for the necessary oxygen. Plants require no special organs for their reciprocal relations with the atmosphere, because their surface, unusually large in proportion to their content, sufficiently effects diffusion. In the animal, however, whose surface, for other reasons, must be many thousand times smaller than that of plants, the necessary quantity of oxygen must be introduced into the body through special internal organs of great superficial extent (bronchial plexus), permitting powerful ventilation, and through a rapid change of the adjacent strata of air by means of vibratile cilia, as well as through a constitution of the dividing membranes favourable to diffusion. This process of oxidation at the same time engenders animal heat, which is a condition of the subtler changes of organic matter, or at any rate spares a great part of the expended energy for the psychical influence.

Thus from consciousness as aim of animal life we have deduced the necessity of five systems—that of movement, of organs of sense, of digestion, circulation of the blood, and respiration. What determines the external form of the body as a whole is chiefly the locomotive system. Its fundamental principle is contraction, as we see already in ciliary movement and the movements of the lower aquatic animals. As soon, however, as the other systems have attained a certain degree of development, the contractile mass requires points of support in the body itself, in order to be able to perform partial movements better, and in more varied directions; especially is this need felt by land animals (even the lowest). These points of support are obtained by means of a skeleton, which is first formed of thickened layers of epithelium or calcareous epidermic layers, afterwards in the Vertebrata of the bony skeleton. These solid parts serve at the same time for protection to the soft parts; thus, among the vertebrates, skull and spinal column protect the brain and spinal cord. The organs for

external locomotion, even in animals tolerably low in the scale, are elaborated into special limbs, which exhibit the most varied modifications, in conformity with the elements, the localities, and the particular food which may be assigned the animal. — To facilitate the reciprocal influence of mind and body there is formed, as a sixth, the *nervous* system, of the significance of which mention has already often been made; and finally, as a seventh, in the service not of the individual but of the race, there is added the *reproductive system.*

This in outline would be the teleological deduction of the construction of the animal kingdom with consciousness as end, whereby the vegetable kingdom appears merely, or at least in the main, only as ancillary to the animal kingdom, in that, on the one hand, it prepares the means of subsistence, and, on the other, the materials of heat and oxygen; for the carnivorous animals also live on the vegetable kingdom, though indirectly. To prove in detail the fitness of the contrivances would, as said already, detain us far too long. I only call attention to the wonderful construction of the organs of sense, where the conformity to an end most strikingly appears. This is almost more the case with the organs of generation, where it is especially remarkable that, notwithstanding the greatest difference in other respects, these organs are always suitable to both sexes of a species, the rest of the bodily form also always allowing of sexual congress. The time of heat among animals is always so arranged that after the fixed period of pregnancy the young appear at the season when food is most abundant. In many cases special parts for the furtherance of sexual congress spring into existence at the time of heat, which afterwards again disappear. Thus, many insects get hooks on the sexual parts for firmly holding the female; the frog has wart-like prominences on the thumbs of the anterior feet, which it inserts into the body of the female; the male of the common water-beetle, sucking-disks attached by stalks

on the three first tarsal joints—the female, on the contrary, furrowing of the wing-sheaths.

Of special interest are the investigations of Dr. J. Wolf on the construction of the human os femoris, communicated in the 50th volume of Virchow's Archiv. That it forms a tube, because it can thus be lighter with the same solidity, was already well known. It is, however, new that the cross-beams and supports, arranged in regular curves (cutting one another at right angles), which break through the bony cavity at the upper and lower end of the bone, are so ordered that they exactly agree with those constructions which are in accordance with the principles of mechanics, when the forces of pressure and of draught of the burdened human femur are taken into account, and the lines of pressure and draught in the interior of the bone are ascertained. Nature, in order to render innocuous the "shearing forces" tending to inner dislocation and dispersion, has thus here realised in an unconscious way those technical rules of mechanics, as they have been applied by the conscious mind only in very recent times, and in a manner still far from perfect, in our modern iron structures (bridges, cranes, &c.)

A common error is that of doubting the adaptation of organisms because certain conditions of fitness which we presume to lay down are not satisfied. That a perfect adjustment in every particular is impossible should indeed be obvious to every one, for otherwise no disease or weakness would subdue the body; it would be immortal. It would be childish to demand that a human cranium should sustain the blow of a hailstone as large as a fist, and declare it to be unsuitable to its purpose because it does not do so, since its adaptation for such exceptional cases would be accompanied by other and far greater inconveniences. Of this kind, however, are most cases where it is asserted that organisms are ill contrived: they amount to this, that contrivances are wanting which would

be appropriate in *certain* cases, but unsuitable in *most* other cases or relations.

Another kind of alleged want of adaptation is due to the constancy of the morphological fundamental types, which forms a thoroughgoing natural law, and only places in a clearer light the unity of all organic forms—the unity of the whole plan of creation. It is the *lex parsimoniæ*, which is verified also in the fashioning of organic forms, in that Nature finds it easier to leave here and there innocuous superfluities than always to be making changes and executing new ideas: she prefers to stop at the greatest possible unity of the IDEA, and only makes just as many modifications as are indispensably necessary. Of this kind are the rudimentary teats among male mammals, the eyes of the blind-mole, the caudal vertebræ in tailless animals, the swimming-bladder of fishes which always live at the bottom of the water, the extremities of bats and Cetaceæ, and so forth.

Lastly, it should be remarked that we must recognise a clairvoyance of the Unconscious in the purposiveness of the creative impulse as in that of instinct, since all organs are developed earlier in the fœtal life than they enter into use, and often even very considerably earlier (*e.g.*, sexual organs). The child has lungs before it breathes, eyes before it sees, and can, indeed, have knowledge of future states in no other way than by clairvoyance, whilst the organs are being formed; but this can be no objection to the plastic activity of the individual soul, since this is not a whit more wonderful than the clairvoyance of instinct.

Let us now pass on to consider the close relationship of organic formation to the operations of instinct.—The nests, buildings, and holes which animals build and make are regarded by everybody as effects of instinct. The Teredo bores for itself with its shell a hole in wood, the Pholas in soft rocks; the Arenicola bores in the sand, and cements the sand into a tube by means of the moisture secreted on the surface of its skin. Some small beetles form for their

tender skin a covering of dust, sand, and earth; the grubs of moths make for themselves tubes of hair or wool, which they carry about with them. The larva of most of the Phryganeæ weaves with the threads produced from its spinning organs wood, leaves, shells, &c., into a tube, wherein it dwells, and which it carries about with it. The larva of the caterpillar needs no foreign material for spinning its cocoon, in order to maintain the necessary seclusion and rest for the future change. Here, then, the dwellings of animals, just as the web of spiders and the covering of skin which some beetle-larvæ form of their excrement, is entirely formed by the organ itself.

Nautilus and Spirula periodically emerge from their hemispherical shell and form for themselves a larger one, corresponding to their growth in the interim, which, however, is united with the old one in such a manner that in process of time the shell of the animal consists of a series of such chambers, ever increasing in size. In a similar way the shells of snails grow with their growth, whilst the Crustaceæ annually burst and throw off their shells by voluntary movement, just as the spiders, snakes, and lizards their skin, birds and mammals their feathers and hair, whilst the skin of the higher animals continually peels.—What we have seen hitherto in the structure as a whole can also be observed in the several parts, *e.g.*, the operculum. A spider (*Mygale cementaria*) lives in a hollow in marl, which it makes fast with a door consisting of a dab of earth hinged on to the web. The vineyard snail in winter closes its dwelling with a lid, which it fashions together with its hinge from exudations of its own body, but which yet is not united in any way with its body. In other snails, on the contrary, the covering is permanently connected with the animal by means of muscular bands. Thus we have arrived at organic formation by a gradual passage from the building instinct, and can we believe that where the junction is so natural the fundamental principles are different? As instinct teaches squirrels

and other animals to collect and garner more copiously when a cold winter is imminent, so dogs, horses, and game acquire in such years a thicker skin; but when horses are transferred to hot climates, after a few years they get no more winter hair. That the cuckoo imagines that its own eggs will have the colour of the eggs of the nest which it has elected to lay them in, has been already repeatedly mentioned. The instinct of the spider directs it to spin, the creative activity gives it the organ for spinning. The instinct of the working-bees leads them specially to collect, and the means of transport correspond thereto; they are even peculiarly favoured by possessing brushes on their feet to sweep together the pollen, and baskets for collecting. The insects, which in accordance with their instinct lay their eggs on freely creeping larvæ, have formed for themselves only a quite short ovipositor; whilst others, which are compelled to lay their eggs in grubs that are deeply concealed in old wood (*Chelostoma maxillosa*), or in fir-cones, have very long ovipositors. The ant-eater, which, in obedience to its instinct, is directed to the white ants, and dies with any other food, has with this object been furnished partly with short legs and strong claws for burrowing, partly with its long, narrow, toothless snout, provided with a filiform adhesive tongue. The owls, which are destined for night-prey, have their gentle, spectral flight, in order not to waken the sleepers. Beasts of prey, which, owing to their digestion, are instinctively destined for flesh-food, have been provided with the necessary strength, speed, weapons, and keenness of sight. As instinct has taught many birds to conceal their nests by assimilating the colour of the same to the environment, so has the creative activity given protection to innumerable beings by causing them to resemble their place of abode (especially parasites). Can it be really a different principle which implants the impulse for action, and bestows the means to give it effect?

Here is the place to refer once more to the phenomenon

of the formation of bubbles presented in *Arcella vulgaris*, which, although manifestly a result of the plastic energy of Nature, yet wears the appearance of an arbitrary exercise of instinct in suitable adjustment to the perceived external circumstances.

As concerns reflex movements, we see a great number of the digestive processes effected by them. From the act of swallowing downwards, the peristaltic movements of gullet, stomach, and intestines are effected for the most part by reflex movements, in that the stimulus of the food at each spot gives occasion to further progress through appropriate movements. In the same way the increase of the secretions of saliva, gastric juice, chyme, &c., occurring on the stimulus of food, is reflex action. The discharge of the mass of excretions likewise ensues through reflex action. We have seen above that reflex action is by no means mechanical, but an effect of the unconscious intelligence.

We come now to the most important parallelism, that with the recuperative power of Nature. As we shall see in Chap. ix. C., propagation is only a modified species of plastic energy, a creation of such fresh formations as, on arriving at maturity, reproduce the types of the parental organism (no matter whether a distinct separation of the sexes take place or not). But now, since, as will be shown in Chap. vi. C., the conception of the organic individual is a very relative one, as in certain circumstances it is hardly to be determined whether the new product represents the type of the entire individual or only of a part, there is manifestly no natural break between the new formation of certain organs in one individual and the self-multiplication of a complex organism embracing several individuals of a lower order, which unfolds a many-membered individual from a single germ.

Another parallelism between propagation and the *vis medicatrix* consists in this, that unusual fertility of an unprotected species frequently serves as a means of main-

taining in the face of pursuers an existence which without this would be imperilled. The question is here then to a certain extent concerning a more intense application of the natural sanative force of the species as a collective whole, which provides for the sufficient reparation of an unusually severe loss by over-abundant propagation, *i.e.*, formation of fresh individuals. This law is even discernible in the case of mankind, since after depopulating wars or epidemics there is perceived an increase of the percentage of births beyond the average. (Unfortunately the converse does not hold good with over-population, for then only increased mortality acts as regulator.)

We have already considered how the maintenance of a constant temperature is one of the most wonderful achievements of the organism, which can only be brought about by a marvellously accurate regulation of respiration, of egestion and ingestion. The future, however, must here be taken into account, namely, whenever future disturbances can be predicted through the occurrence of their causes. In conformity with this, we very soon see a correspondingly increased egestion follow every ingestion, before the blood can have received the new materials (*e.g.*, immediately after drinking increased micturition or perspiration, increased salivary and bilious secretion on eating, independently of local stimulation of the organs). Since at every moment there takes place an alteration of the quantity of heat, however slight, the *vis medicatrix* or plastic energy must continually be occupied even with this point alone. Further, there belongs to the digestion of all food a special kind of mechanical and chemical manipulation. We see that flesh cannot at all, or only imperfectly, be digested by herbivores, or plants by carnivores; that bones can be digested by birds of prey, but not by crows; that instinct assigns a single kind of food to many animals, without which they perish; and that conversely among men and animals idiosyncrasies of the race, or of the individual, are

found, owing to which certain materials remain unassimilated, and act injuriously on the organism. It follows from this that the digestion of every substance requires other conditions, and that it remains undigested or is injurious, if the organism is not in a position to establish these conditions. Accordingly, every act of digestion presupposes the inducing of particular conditions, without which it deranges the organism; here then we have again a continual occupation of the *vis medicatrix* in warding off disturbances, or, if it be preferred, of the formative activity in the assimilation of material.

We have seen that in every injury the operation of the *vis medicatrix* or regeneration is only possible through re-formation, by the instrumentality of inflammation, which furnishes neoplasm, whence the parts to be replaced are developed. Just as much does every increase of one egestion upon the suppression of another depend on a new formation, namely, the now increased secretion of egestion.

The whole nutrition of the body, in which, after completed growth, the main function of the formative impulse consists, is one and the same with new formation, and is related to the renewal of all the parts of the body, as the continuous peelings of the skin in man to the periodical sloughing of snakes and lizards, *i.e.*, nutrition is a sum of infinitely numerous, infinitely little, new formations; new formation merely nutrition rapidly gaining ground, and therefore more obtrusive. Having thus already recognised the re-formation in regeneration as a purposed effect of the unconscious soul, the like must hold good of nutrition, if we are obliged to recognise this too, as we cannot help doing, to be in conformity with a purpose. Certainly the psychical influence is less claimed in the gradual process of nutrition than in rapid new formations, because catalytic action is more serviceable; but that it can by no means be dispensed with is proved by the considerable disturbances of nutrition in the parts whose nervous connections with the centres of the ingoing sympathetic

fibres have been cut (partly emaciation, partly deterioration of the secretions, partly decomposition of the blood, in the more sensitive parts, as the eyes: inflammation and destruction). The capillary blood-vessels, from which by endosmosis the structures derive their nutritive fluid, may be ever so finely distributed, yet for every vessel there remains a relatively large area, in which the parts lying farthest from the vessel will also have to be cared for, also muscles, sinews, bones, and nerve-substance must frequently be equally provided for by the same vessel; every particle must thus extract from the nutritive fluid that which suits it. But now if we know that, according to chemical laws, both the structures to be nourished as well as the nutritive fluid have constantly a tendency to decomposition, which they obey as soon as, through death, or even before, after great bodily weakness, the power of the unconscious soul over it has ceased, we cannot possibly believe that this assimilation in all its fine local gradations, such as is necessary for the continuance of the organism, can go on without any psychical influence. This chemical stability of the organic tissues is quite analogous to the constant mechanical tension in tonus; both are only explicable by an infinite summation of small impulses antagonistic to natural decomposition and natural relaxation, and these impulses can only issue from the will. There thus follows from *a priori* considerations what is confirmed by empirical observation on division of nerves.

But now suppose these two reasons, together with the *identity* of renovation and nutrition, were not found sufficiently to the point to prove the psychical influence in ordinary nutrition, and one assumed that the catalytic action of the existing tissues were a sufficient cause, still the question would arise, Whence comes this constitution of the cause? Then one would be obliged to say, These structures have now this constitution because they formerly had it. Thus, with further questioning, a point would

be arrived at when the nature of the tissues would have become different, and this change would first have to be explained; for this change is the reason why the structures were from that moment adapted to a purpose, and so remained in virtue of their constitution; and since no materialistic explanation exists for this adaptation, it must be ascribed to the purposive activity of unconscious will. But then this also becomes the cause of the maintenance of the adjustment, and the necessity of having recourse to a psychical influence is not removed, but only postponed. Setting aside that at *every moment* of life we stand at such a point of change, we might go back still farther, for the present constitution of the tissues is not conditioned merely by the change itself, but also by their constitution *before* the change. If we regressively follow this series, we arrive at the first origin of the structure, which requires an explanation, whilst in the course of development we must intercalate at least as many psychical influences as there have been fresh adjustments. Now, as no structure of the organism is superfluous, but each has a definite purpose, which again serves as means to the preservation of the individual or the race, one will also see at this very commencement a purposive action of the will. And, as certainly as the first origin and the more considerable changes are important aids to the persistence and the nutrition of a structure, and facilitate the work of the will—nay, first makes it possible for the whole extent of the organism—so certainly are they not the sole conditions of nutrition, but the omnipresent unconscious will in the organism, together with the unconscious intelligence, is concerned in the smallest chemical or physical process simply because this organism is threatened in the smallest untoward event, if only by the tendency to chemical decomposition, and because in presence of these ceaseless material disturbances nothing else can maintain the equilibrium but a psychical influence. On the other hand, however, life is only possible when this psychical influence

is reduced, for the ordinary processes, to a *minimum*, and the rest of the work is performed by means of appropriate *mechanisms*. These appropriate mechanisms we meet with everywhere in the body, but so contrived that the unconscious will reserves to itself at every moment the modification of the purpose (*e.g.*, in different stages of development), as well as the independent interference with the wheels of the machine, and the immediate execution of a task to which the mechanism is unequal. This cannot diminish, but only increase, our astonishment at the unconscious intelligence; for how much higher does not the being stand, which *spares* itself the recurring performance of a work by constructing an efficient machine, than one who is always doing the same thing over and over again with his own hands? And in the last resort there always remains to the soul that unavoidable minimum of immediate work, because each moment brings other relations and other disturbances, and no mechanism can be adapted for more than *one* fixed class of relations. This, then, is the answer to all objections which might possibly have been urged in the course of this investigation so far, with the notorious appeal to purposive *mechanisms*:—(1.) The concept "mechanism" does not exhaust the facts, but the performances of a mechanism, when it exists, always leave a *something over to be immediately performed by psychical action;* and (2.) the fitness of the mechanism includes the *fitness of its origin*, and this again always remains the work of the soul.

If, with the consideration that every organic event has two causes, a psychical and a material, we recede farther in the chain of material causes, we arrive in all strictness, whatever point of departure we may choose, at the first fertilised ovum as the final material cause. When the development of the ovum, wholly or partially, takes place within the maternal organism, the material influences of the latter also certainly co-operate; but in the ova of fish and amphibia, which are fertilised outside the female body,

this is never the case. In this regress it is, however, to be remarked, that the psychical causes become in general so much the more important than the material the younger is the individual (as we saw in the strength of the *vis medicatrix*). At a more advanced age the organism for the most part lives on the acquisitions of better times; before puberty, on the other hand, it is ceaselessly occupied either with processes of simple growth or with producing new structures, and in the life of the embryo the importance of the psychical influences increases the earlier the period to which we recede.

The just-fertilised ovum is a cell (consisting only of the yolk), the wall of which is represented by the vitelline membrane, the contents by the yolk, and its nucleus by the germinal vesicle. Among the higher animals the blastodermic vesicle within the germinal membrane (in man about one two-hundredth of a line) is the part from which alone the embryo, certainly with the assistance of the yolk, is developed. Every part of the egg exhibits a thoroughly uniform structure (partly granular with imbedded droplets of fat, partly membranous and mucous), and these homogeneous elements suffice to produce, under generally similar external circumstances (brood-heat in birds, temperature of air and water with fishes and amphibia), the most diverse races with their finest differences and their immense multitude of systems, organs, and tissues; for among the higher animals, the young, on emerging from the egg, contain almost all the tissues and differentiations of the adult animal. Here the influence of the will is most clearly manifested in the transformation of the elements, as one may see in the ova of fish a few hours after (artificial) fertilisation the meridional and equatorial furrowings of the whole yolk, with which the development commences, and which is followed by a number of parallel interlacings. During the greater part of the embryonic life the soul is occupied with the establishment of mechanisms which

are destined later on to save in great measure the labour of moulding the material. We can see no reason, however, why we should not ascribe the new formations which here make their appearance, just as much as the new formations of after-life, to the purposive activity of the unconscious will; for the greater extent of these first formations, in comparison with the already existing body, can in truth establish no qualitative distinction, and that the moment of the individualisation of the new mind, *if* such a one may be assumed at all, is that of fertilisation, can certainly not be involved in doubt. That, however, the mind in that period affords no indication of consciousness can neither excite astonishment, since it has first to form the organ of consciousness, nor can it be anything but helpful to its concentration on the unconscious performances, since, indeed, even in after-life, the power of the Unconscious is most forcibly displayed when consciousness is entirely suppressed, as in remedial crises during deep sleep; and the embryo, indeed, lies too in deep sleep.

If we, however, once more consider the question whether in general an unconscious will can produce bodily effects, we have in preceding chapters arrived at the conclusion that every action of the mind on the body, without exception, is only possible by means of an unconscious will; that such an unconscious will can be called forth partly by means of a conscious will, partly, also, through the conscious idea of the effect *without* conscious will, even in *opposition* to the conscious will. Why should it not, then, also be called forth through the unconscious idea of the effect with which here, even to demonstration, the unconscious will of the effect is bound up, because the effect is end? But, lastly, that the mind, in the first period of embryonic life, must work without nerves, can certainly not militate against our view, since, indeed, not only in nerveless animals do we see all psychical effects follow without nerves, but even in the case of

man have cited above sufficient examples of the kind, and, moreover, the embryo in the first period has just that semifluid structure of highly organised matter, which forms an excellent substitute for nerve-tissue proper.

If now, in the first place, we perceive materialistic attempts at explanation to be insufficient; if, in the second place, a predestined fitness of development appears impossible, considering that any set of circumstances occurs only once in a lifetime, and yet each set of circumstances requires a novel reaction, and calls forth just that which is demanded; if, thirdly, the only remaining mode of explanation, that this unconscious psychical activity itself appropriately forms and maintains its body, has not only nothing to be said against it, but has all possible analogies from the most different departments of physiology and of animal life in its favour, the verification of individual providence and plastic energy appears to be as scientifically certain as is possible in inferences from effect to cause. (Comp. further, Ges. philos. Abhandlungen, No. vi., "Ueber die Lebenskraft.")

I close then this section with the fine words of Schopenhauer: "Thus even empirically every being stands before itself as its own handiwork; but the language of Nature is not understood, because it is too simple."

B.

THE UNCONSCIOUS IN THE HUMAN MIND.

"The key to the knowledge of the essence of the conscious life of the soul is to be found in the region of Unconsciousness."—C. G. CARUS.

I.

INSTINCT IN THE HUMAN MIND.

Impossible as it is to draw a strict line of demarcation between body and mind, no less impossible is it to discuss apart the instincts relating to our physical and to our psychical needs. Thus we have already in the preceding section alluded to several instincts of the human mind, as the capricious appetites of the sick or the pregnant, and the curative instincts of children or somnambules. A few others border on the bodily instincts, *e.g.*, the fear of falling on the part of young animals and children, who, *e.g.*, are quiet when carried upstairs, but become restless when carried downstairs; the greater caution and circumspection of the movements of pregnant horses and women; the instinct of mothers to place the new-born at the breast, of children to suck; the peculiar talent of children to distinguish genuine from feigned friendship; the instinctive shyness in the presence of certain strangers which is wont to be manifested especially by pure, inexperienced girls; the good and bad presentiments, with their great motive power to commit and omit actions, especially in the female sex, &c.—We shall consider in the present chapter those human instincts which are more connected with the bodily life, and to which, therefore, the name instinct is willingly accorded, whereas an empty sentiment of human dignity dictates the refusal of the term to all manifestations of the unconscious more remote from the bodily life, but otherwise perfectly analogous, on account of its animal associations.

In the first place, we have to consider some instincts of aversion, *i.e.*, such as do not compel to actions, but to omissions, or merely to those actions whereby the object of aversion is got rid of or avoided. The most important is the fear of death; this is only a particular form of the instinct of self-preservation, other forms of which we already know as the *vis medicatrix*, plastic energy, migratory impulse, reflex protective movements, &c. It is not the fear of the last judgment or other metaphysical hypotheses, not Hamlet's doubt of what will come hereafter, not Egmont's simple delight in being and doing, which restrains the hand of the suicide, but instinct does it with its mysterious shudder, with its wild heart-beats chasing the blood madly through the veins.

A second instinct of repulsion is Shame; it has such exclusive reference to the generative region that these bodily parts are even named after it. It appertains in an especial degree to the female sex, and excites in them a characteristic defensive attitude, and is determinative of the whole life of man, of savage and civilised alike. The milder form of heat due to non-periodicity[1] and shame are the two foundations which allow of the elevation of the sexual relations of man into a higher sphere than that of the animals. Shame is something so little due to consciousness that we already find it among savage tribes; certainly in their case limited to the main point, whereas civilisation draws within its sphere whatever has any sort of connection with sexual relations.

An analogous instinct of aversion is Disgust. It relates to food as shame to sex, and serves to put us on our guard against those food-ingredients which are easily mixed with dirt and impurity, *i.e.*, organic excretions and organic matter in a state of semi-decomposition. Its senses are

[1] Beaumarchais rated this factor so highly that he jestingly said: *Boir sans soif, et faire l'amour en tout temps, c'est ce qui distingue l'homme de la bête.* A much better statement of specific difference, at all events, than "thought;" for the rest, not quite true, since the anthropoid apes have the non-periodicity of heat in common with man.

taste and smell, and it is scarcely correct when Lessing regards it as possible for other senses. At the same time it is of course not necessary that the idea of eating the things for which one feels disgust should have been already entertained; one is often previously so disgusted as to prevent the thought of eating arising. There is, moreover, another much deeper disgust which has reference to purity of the skin, in order that perspiration may not be suppressed through the stopping-up of the pores. Here, at any rate, the sense of sight may be directly concerned.—Man can by habit more or less repress these, as all other instincts, just because with him consciousness has become a power which, in most things, except those of supreme importance, is able to oppose the Unconscious, and habitual action truly belongs indeed also to the sphere of consciousness. But the Unconscious can also be repressed when that which would have been done instinctively without consciousness and habit is done with consciousness and from habit; then the repugnance which one feels towards the contrary is rather a repugnance to the unusual than an instinctive repulsion.

Look at a young girl and boy: the one neat and smart, elegant and mannerly, graceful as a kitten; the other with trousers torn in a recent shindy, awkward and clumsy as a young bear. She is fond of dress and of showing herself off, tenderly dandles her doll, and plays at cooking and washing and ironing; while he builds a house in the corner, plays robber and soldier, rides on every staff, sees a sabre or a gun in every stick, and is especially pleased with the manifestation of his own energy, which of course consists, for the most part, in useless destruction. What a delightful anticipation of the future vocation, which is often to be observed in the most charming details! If much of it is imitation of adults, still a presaging instinct is unmistakable, which guides children, even in their sports, to the exercises which they will require in the future, and makes them capable

and trains them in advance, just as among young animals we see the sportive instinct always leading them to activities which they will require hereafter in their independent life (think of the kitten and the reel). In the play-instinct the will often procures itself resistances which it has to overcome. This paradox is likewise only comprehensible if the play-impulse is instinctive, and unconsciously subservient to the aims of the future life. If the play-impulse were only imitative, boys and girls would imitate the same things, since they do not understand the distinction of sex, and in strictness do not even possess it. How unique is the rage for dancing, the whimsicalness, love of dress, grace, one might almost say childish coquetry, in little girls, which points to their future destiny of conquering men, all of which is utterly foreign to boys with healthy minds! How characteristic is the indefatigable assiduity with which they tend, dress, and dandle their dolls; how in harmony is it with the tenderness with which grown-up girls kiss and caress all strange children in arms, which young men commonly find more repulsive than young monkeys!

How deeply such instincts as purity, love of dress, modesty are rooted in the Unconscious may be particularly observed in the blind who are at the same time deaf and dumb. Let any one who has never reflected on this condition try to form a clear idea of it, and of the poverty of the means of communication with the outer world which are at the command of such an unfortunate. Laura Bridgman, in the Blind Institution at Boston, who in her second year had lost all her senses save touch, was clean and orderly and very fond of dress. If she had on a new article of clothing, she wished to go out to be seen and observed. She was often in raptures over the bracelets, brooches, and other ornaments of the ladies who visited her. Julia Brace (who had become blind and deaf in her fifth year) was just the same. She examined the style of hair of the ladies who paid her visits, in order

that she might imitate it. The same passion for dress was found in all other similarly unfortunate girls, so that it became a chief means of reward and punishment. Lucy Reed always wore a silk kerchief over her face, probably because she thought her face was disfigured, and when she entered an institution, was only with the greatest trouble dissuaded from wearing it. She recoiled from the touch of a person of the male sex, and would not permit caresses of any kind from the same, although she gladly received and responded to those of women, even when strangers. Laura Bridgman showed in this respect a still greater delicacy of feeling, without any one being able to guess how she attained to a notion of sexual relations, since usually no man ever approached her except the director of the institution, Dr. Howe. She had heard much of Oliver Caswell, likewise blind, deaf, and dumb, as his arrival in the institution was expected, and was very curious about her companion in suffering. When he arrived, she kissed him; but then flew back like lightning, as if terrified at having done something improper. She repaired the smallest disorder in her dress, like a girl very strictly educated in rules of decorum. Nay, she even transferred her modesty to lifeless objects. Thus, *e.g.*, when one day she wanted to put her doll to bed, she previously went about the room to discover if any one was present; and when she found Dr. Howe, she turned back laughing, and only after he had departed did she undress her doll, without being shy before her instructress.—To teach a blind, deaf, and dumb child the laws and conceptions of decency would be almost impossible if instinct did not correctly point them out, and opportunity alone or the slightest hint did not suffice for the realisation in conduct of this immediate unconscious intuition. That this feeling of modesty really arises from the depths of the psychical nature, is proved by the concurrence of its higher development with the attainment of puberty. Thus, *e.g.*, in the case of a blind deaf mute in Rotherhithe

workhouse, who had previously lived a completely animal life, an entire change took place in her seventeenth year: she became all at once just as attentive to dress and decency as other girls of her age.

Sympathy or fellow-feeling is a reflex mental instinct. As feelings are divisible into pleasure and displeasure or into joy and sorrow, so fellow-feeling into sympathetic rejoicing and compassion. Jean Paul says, "For sympathy in sorrow a man is sufficient, but sympathy in joy requires an angel;" for the reason that sympathy in joy can only arise if it is not hindered by another feeling, envy. This is, however, the case more or less with all men, whereas compassion is less obstructed, since pleasure at the misfortune of others is usually very slight in most cases, if hate and vindictiveness do not give birth to it. Thus it comes to pass that sympathy in joy is almost insignificant, whilst compassion has the greatest importance. Now compassion arises by way of reflection through the sensuous perception of another's suffering. The convulsive motions and writhings of pain, the looks and gestures of grief and distress, the tears of sorrow, the groaning and moaning, the whimpering and rattling in the throat, are material signs which are immediately comprehensible to a being of like nature through an unconscious intelligence; they do not, however, act merely on the intellect, but also on the heart, and reflectorially call forth similar pains. Cheerfulness and sadness in a similar way infect other people like convulsions. When the sense-perception only apprehends the signs of pain in general, the compassion is only general, a shudder, or a quiet woe, or a thrilling horror, according to the intensity and duration of the observed pain; but if this is specially known, reflex action reveals the same kind of pain in the compassion, as soon as the latter has surmounted the lowest stage of general lamentation. That the degree of compassion is dependent on the momentary receptivity of the mind for reflex actions, and also on the degree of interest which is otherwise

entertained for the sufferer, is undoubted; it is, nevertheless, purely reflex action, as is strictly proved by this, that compassion is, *cæteris paribus*, in direct ratio to the clearness with which the senses perceive the signs of suffering. For example, when we read of a battle where ten thousand dead and wounded are counted on either side, we are scarcely at all affected, only when the dead and wounded are summoned before our imagination does our compassion stir; but when we ourselves go about among the pools of blood, the corpses and the limbs, and the groaning and dying men, then indeed a deep horror overcomes us. What value the instinct of compassion has for man, who only through mutual help truly becomes man, is tolerably plain. Fellow-feeling is the metaphysical bond which overleaps the limit of individuality on the side of feeling; it is the most significant impulse for the begetting of such actions as consciousness declares to be morally good or beautiful, more than merely dutiful. It mainly imparts reality to that province of ethics which is usually termed "the duties of affection," the reality from which the general notion is subsequently abstracted.

As sympathy is the chief instinct for the *production* of benevolent actions, whose effects extend beyond the sphere of egoism, so the instinct of Gratitude appears in the light of a *multiplier* of the same. Although gratitude sometimes leads us to injure a third person, yet the case is rare, and the expediency of this instinct upon the whole is not to be misapprehended if it be also supplemented, nay, even superseded, in a perfect system of ethics. As the impulse of retaliation in respect of benefits received becomes a multiplier of morally beautiful actions, so in respect of injuries does it become, in the character of the instinct of revenge, the original source of the sentiment of justice. For as long as the community has not taken upon itself to satisfy the passion of revenge, self-vindication is rightly looked upon as something holy, as a primitive institution of justice;

and this it is which must gradually form, enhance, and clarify the feeling of right, until such conception of right gains a solid foundation in the national habits, when the duty of requital may be transferred to the community at large. It is by no means intended by this to assert that sympathy and the retaliatory impulse are the moments from which ethics and jurisprudence must be theoretically derived and established, which, on the contrary, I should not grant; it is only asserted that they are in fact practically the roots from which those feelings and actions have sprung, whence mankind have gained, through abstraction, the conceptions of the morally beautiful and of law.

The next human instinct of importance is Maternal Love. For the sake of comparison, let us glance back once more at the animal kingdom.—Most of the lower animals have no need to trouble themselves about their young ones, because these emerge from the ovum sufficiently developed; or because, by means of the various instincts which have been already mentioned, they have, directly or indirectly, brought their eggs to those places where the creatures when hatched find the conditions of their further development until the age of independence, or are still provided by the mother with additional means of subsistence. The place which yields the necessary conditions of development is with the wolf-spider a spun egg-bag, which it fastens to itself by means of a web; for the Monoculus, a part of the oviduct turned inside out, which protrudes as ovisac; with birds, the nest, together with the brood-heat of the maternal body; in some fishes and amphibia, the body of the female itself, just as in all mammals, but with this great difference, that in the latter an organic connection of mother and fœtus persists till the time of birth (the marsupial mammals excepted). It is evident that here again the same thing is achieved in one case by instinct and maternal foresight as is effected in another case by organic formative activity, *i.e.*, the

instinctive maternal care for the development of the young till independence is only in form, not in essence, different from the procreation and formation of the fœtus.

Two pervading laws here display themselves; the first is, that the maternal instinct cares for the young animal as long as it is unable to care for itself; the second, that this time of nonage or childhood in general lasts the longer the higher the class stands in the animal scale. This difference is, on the one hand, based on the simpler conditions of the nutrition of the lower animals (especially aquatic animals); on the other hand, on the metamorphoses when the earliest life-period is passed in quite another form and under other nutritive conditions (mostly in the form of a lower stage). There is still, however, undoubtedly an unexplained remainder, which is especially evident if we confine our attention to the mammalia, and compare, *e.g.*, the duration of the infancy of a rabbit, a cat, and a horse. From these first two laws the following conclusion may be drawn: The instinct of maternal love gains in general greater significance and range the higher we ascend in the animal scale, a scale graduated, however, not zoologically but psychologically.

While we see the majority of fishes and amphibia persist in dead indifference to their young, some insects exhibit a higher maternal love in conformity with their higher mental activity. Only see how tenderly ants and bees nourish, feed, and protect their eggs, nay, even their still imperfectly developed larvæ; how some spiders carry their young about and carefully feed them (as the hen her chickens). Among birds, the maternal care attains a high degree; certain classes of birds, *e.g.*, some birds of prey and birds of song, decidedly surpassing in mind the general run of mammals. The self-sacrificing courage with which even the smallest birds defend their young against every enemy; the self-renunciation with which they bring them food whilst they themselves often starve and grow lean; the readiness to sacrifice themselves with

which they bare their breast and body of feathers to make a warm couch for their naked little ones; the patience with which they afterwards instruct them in flying, in catching insects, and other dexterities which they need for independent life; the impatience to see the young just as clever as themselves,—all these are the clearest proofs of a deeply rooted impulse; whilst the complete extinction of this tender fondness when the young become independent, nay, the conversion of the same into hostility, shows that not custom or conscious choice, but an unconscious necessity is the source of this impulse.

The point of instruction in particular has been hitherto far too much overlooked, for the animals which stand mentally higher learn, in fact, much more through the instruction of their parents than one thinks, *since Nature never makes use of double means to an end, and refuses instinct where it has granted the means for conscious performance or acquisition.* Penguins entice their young, when they will not follow them into the water, to a rocky prominence, and then push them down. Eagles and falcons guide their offspring to higher and higher flights, to flight in circles and to evolutions, as well as to swoop down on their prey, for the latter purpose flying over them and dropping dead, ofttimes even small living animals, which the young ones are only allowed to devour if they have themselves caught them. But as surely as the *method* of this instruction is a conscious mental product of these animals, so surely is the impulse to *instruct* their young *in the main instinct.*—As in higher mammals infancy lasts longer, so not merely is the care of the mother, but also her instruction more comprehensive. Let any one observe how a cat educates its young ones, flattering and rewarding, putting them right and punishing, whether it is not the faithful image of human education by uncultivated mothers; a parallel confirmed even in the slightest traits, *e.g.*, in the enjoyment which the mother visibly exhibits in the amusingly knowing consciousness of her superiority.

We partially see already in birds a chemical preparation of the food in the maternal crop. This instinct is fully developed in the case of the mammal, whose lacteal glands begin their secretion long before birth, a secretion which is increased by the sight of the young, diminished by their absence. That which among birds is perceivable only in a very rudimentary form, but among mammals is exhibited in the inheritance of special maternal qualities or peculiarities of character, in the fright of the pregnant and their capricious appetites, to wit, the immediate unconscious reciprocity between the soul of the mother and the child, the possession of the infant's soul by the mother, this appears continued in a modified way after birth, and only gradually disappears. Thus the peculiar phenomenon of contagious visions nowhere occurs more easily than between the mother and her nursling, and both when pregnant and even after delivery, mothers, whose nature has not been spoilt by culture, possess a marvellous divination of their children's needs. Just as the wasp, which opens the hole to convey new food to its larvæ when the original stock has been consumed, so the mother guesses when her child requires food, and awakes when the child is in want, whereas no noise can disturb the sleep of fatigue. But, as said before, this direct communication between the mind of mother and of child pretty quickly disappears; only sometimes under extraordinary circumstances, *e.g.*, in dangerous illnesses of the child, may it be seen to revive.

The question now is, whether in mankind maternal love is really anything different from what it is among the brutes; whether anything else but instinct can bring it to pass that the most reasonable and most sedate women, who have already enjoyed the highest treasures of mental culture, are all at once prepared to undergo, with real, heartfelt joy, and for whole months, the sacrificing nurture, the peevishness and sordidness, the toyings and silliness, without any response whatever on the part of the

child, which, for the first months, is nothing more than a flesh doll, slavering and befouling its swaddling-clothes, which, at the most, turns its eyes by reflex action to the light and instinctively stretches out its arms towards its parent. Only see how such a rational woman is completely lost in admiration of *her* child, which is only with the greatest difficulty to be distinguished from any other; and how she who, in former days, had made clever criticisms on Sophocles and Shakespeare, now will be beside herself with joy because the little one so soon croaks A. And with all this the woman does not, as the man might, undergo all these inconveniences in hope of what the child may hereafter become, but she is simply absorbed in the present joy and maternal delight. If that is not instinct, then I don't know what instinct is. Let any one ask himself whether a poor nursery-maid would endure all that drudgery and fatigue for the sake of a daily wage of a couple of pence if her instinct did not already point to this occupation.

That the maternal care lasts so long in the case of the human child, is merely a special case of the above-mentioned law, and lies in this, that children of four years old would sooner be run over in the street than get out of the way, whilst a young cat gets out of the way as soon as it can see. What is more natural than that the protecting instinct of the mother should serve as a providence to the child, and that the little one should instinctively cling to its mother's gown? All animals feed, nurse, and look after their young until they can feed themselves, and is it likely man, with his lesser fertility, should make an exception to this general law? And when can a child maintain itself? Certainly not until puberty. Accordingly, the instinctive parental care must at least last till then. Animals teach their young the dexterities which they need in order to earn their living, and should not man do the same? Among animals, too, the *kind* of instruction is partly the result of conscious thought, but the instruc-

tion itself is natural impulse; and can it be otherwise among men, because the skill and knowledge which man needs for earning a maintenance are somewhat greater than among animals? But it is indeed agreed that in the whole animal kingdom no such psychological leap takes place as from the highest animal to the moderately civilised man, consequently the things which man must acquire, in proportion to what he can instinctively do, are more considerable than among the highest animals, because his conscious mind is just adapted for these performances, and, accordingly, an instinct for them would be a *superfluity*. Nature, however, does nothing in vain. Doubtless, however, the didactic instinct is necessity in the parents, because without instruction the young would perish before acquiring their powers, and the human race owes to this higher faculty of learning and this stronger didactic instinct, in union with a more perfect language, its capability of progressing indefinitely, and to this its whole position and significance in Nature.

Among animals, male and female have the same employments. It is otherwise with the civilised human being, where the man in particular has to earn for the family, and is pre-eminently fitted for the education especially of the male posterity. Only here and there among animals does the male sex participate in caring for posterity. Thus the male salmon makes a furrow for the eggs of the female, which it fills up when they are fertilised. With most monogamous birds, the male helps in building the nest, alternately broods or feeds the brooding female, defends the eggs, and takes part in the nurture, nourishment, and protection of the young. The like also takes place in the case of man. It is a common phenomenon that all little children are extremely repugnant to men, and this aversion ceases at once if they themselves have any. It scarcely admits of doubt that there is an instinct of paternal affection, if feeble, which is also proved by the tender love of fathers to those children who,

in consequence of their miserable bodily and mental condition, would under other circumstances have only excited aversion and contempt, or at the most pity. But, nevertheless, I believe that, in paternal love, partly duty, decency, and good breeding, partly habit, partly conscious friendly inclination, furnish the main motives, and that instinct, on the one hand, only manifests itself in early youth, on the other, in moments of danger to the child. Lastly, it should be observed that a true paternal love—I mean one which exceeds what decency and good-breeding demands, and which the custom of the environment permits to grow—is a much rarer phenomenon than one is inclined to assume, though certainly not so rare, by a long way, as the reputed love of brothers and sisters. What, however, really exists of such father's love, which does not simply show itself in moments of danger, but is always there, is conscious friendship, united with the conscious reflection that no one will care for his child if he does not, for the child for whose existence he is responsible—a reflection which alone can give strength for the greatest sacrifices. From all this it is explicable that human children, even after their education has ended, will not be so strange to their parents as the young of animals, for through the so much more prolonged infancy custom has time to forge its chains, and if there be any spiritual harmony between parents and children, a certain degree of friendship will arise with the aid of habit. But lastly, the instinct of parental love is never entirely extinguished in the case of mankind, because the parents, as long as they live, always have either the possibility of making sacrifices for the welfare of their children or of helping them out of danger; for whilst the brute has entirely to rely upon itself, man is only in a position to live humanly in society. To which must be added, in conclusion, that men in advanced age repeat the comedy in the case of their grandchildren, which is not the case with animals.

If in the man paternal love is less of an instinct, so much the more is the impulse to establish a household, and to fulfil his destiny as father of a family, although he thereby ruins and makes unhappy himself and the girl whom he marries, whilst unmarried they might both have had enough whereon to live comfortably. I do not speak here of love, nor of the sexual impulse in general; but where the former is entirely wanting, and the latter would be far from affording any sufficient motive, the impulse springs up in the mature years of a man's life to set up a household; and however clearly the poor devil may see that he will have to starve in consequence, whilst as single he has a fair competency, still the marriage comes off. It is the same impulse which bids the young four or five year old stallion part from the family of his parents, along with some of his sisters, to form a family of his own, and which compels the bird to build its nest. They know as little as that poor wretch, that the pains and deprivations which are instinctively imposed upon them have no other purpose than to make possible the maintenance of the race. It is this unsatisfied impulse which makes old bachelors feel so uncomfortable; and though they may see a hundred times that they would not be better off in the married state, all things considered, yet the pain of this unsatisfied instinct is not to be reasoned away, just because it is instinct.

The consideration of the instinct of love should now follow. This point is, however, so important, that I shall give it a chapter to itself.

II.

THE UNCONSCIOUS IN SEXUAL LOVE.

THE stamens of plants incline when their pollen is ripe, and shed it on the stigma. Fishes pour their spawn on the eggs of their own species when they find them in great numbers; the salmon, moreover, makes a furrow for its female. The male cuttlefish, on coming in contact with their females, throw off an arm elaborated into a generative organ, which, penetrating the latter, performs the reproductive act. In November, river crawfish fasten under the belly of the females pouches filled with seed, which in the spring fertilises the mature eggs. The male spiders take up the seminal fluid, which trickles from their sexual organs, with an extremely complicated apparatus contained in the last hollow joint of their tentacles, and by help of the same apply it to the aperture of the female. The male embraces the female frog and discharges its sperm, whilst the female simultaneously deposits the ova. The singing-bird applies the opening of its spermatic duct to the female anus, and animals possessed of a penis introduce the same into the female vagina. When fishes pour the spawn, which they feel impelled to discharge, only on the eggs of their own kind, when species of animals in which male and female are of very different forms (as, *e.g.*, glow-worms) still find each other without fail in order to copulate, and when the male mammal, in obedience to an irresistible impulse, always introduces its penis into the female vagina of *its own* species, are we to suppose that there are really two different

causes at work, or is it not rather the working of the same Unconscious, which, on the one hand, *harmoniously fashions* the sexual parts, and, on the other, as instinct impels to their *right* use—the same unconscious clairvoyance which in creation, as in use, adapts the means to an end, which does not appear in consciousness?

Would man, at whose command are so many means for satisfying the physical impulse, all equally efficacious with coitus, be likely to discharge the inconvenient, disgusting, shameless, reproductive function, did not an instinct always urge him anew, often as he has experienced that this mode of satisfaction yields him, in fact, no higher sensuous enjoyment than any other? But many do not attain even to this much insight, because, *in spite of* experience, they always measure future enjoyment according to the strength of the *impulse*, or are so possessed by the impulse during the act, that they *never attain the experience.* It might, perhaps, be replied, that man frequently desires intercourse although he is aware of the impossibility of procreation, *e.g.*, with the notoriously infertile or prostitutes, or when, as in illicit connections, he seeks to prevent procreation; but to such we reply that the knowledge or intention of consciousness has no direct influence on the instinct, since the design of procreation lies *outside* consciousness, and only the willing of the *means* to the unconscious end (as in all instincts) appears in consciousness. That the impulse to sexual union is an instinct which manifests itself spontaneously, and is by no means to be regarded as a consequence of the experience that a pleasure is to be expected from this union, appears from the fact that the sexual impulse as instinct is universal in the animal and vegetable kingdom, whereas venereal organs, which link a sexual pleasure to the act of copulation, are only to be found at a tolerably advanced stage of the animal kingdom. The instinct of sexual intercourse is then something far earlier and more original in the history of organisation, since all organisms destitute

of venereal organs are sufficiently impelled by it alone, without the aid of sensibility. It is, however, tolerably plain why the Unconscious deems special venereal organs necessary in the case of beings whose consciousness is far more highly developed; for the more consciousness attains independent importance, the greater is the risk of its thwarting the demands of instinct, the more desirable does a bait become to entice to the performance of instinctive actions. A proof that the reproductive instinct is no mere result of physical craving in the generative organs may be found in the above-mentioned example of the treading of birds (Chap. iii. A. p. 82), and finally in the phenomenon that the strength of the sexual and physical urgency are to a certain degree independent of one another. For one finds human beings with a strong inclination to the other sex, whilst their physical impulse is so small that it almost borders on impotence; and conversely there are persons of strong physical impulse, and yet with little affection for the other sex. This is due to the fact that the physical impulse is dependent on the *accidental* physical organisation of the generative organs, but the metaphysical impulse is an instinct which wells up from the Unconscious. That does not, however, preclude, on the one hand, the metaphysical impulse from being more vehemently aroused by a stronger physical impulse, and, on the other hand, the strength of the physical impulse while the organism is being fashioned being conditioned by the strength of the metaphysical impulse. Accordingly the independence only obtains within certain limits. Phrenology also recognises the distinctness of the two impulses, for whilst the physical craving can manifestly only be sought for in the organisation of the generative organs and the irritability of the whole nervous system, phrenology—with what right is of no consequence — seeks to localise the sexual impulses in the cerebellum and circumjacent parts.

Having perceived the sexual impulse in general to be of the nature of instinct, the next question is, Whether the like is true of the *individualisation* of the same, or whether this springs from the conditions of consciousness? Among animals we distinguish the following cases:—Either the sexual impulse is merely general, the selection of the individual is entirely left to chance, and all intercourse ceases with coition, as, *e.g.*, among the lower marine animals, the fishes which copulate, frogs, &c.; or the pairs remain together for the time of one rut, as most rodents and several of the cat tribe; or till the period of delivery, as bears; or for some time after, till the young are more developed, as most birds, bats, wolves, badgers, weasels, moles, beavers, hares; or they remain together for life and form a family. Here, again, we meet with polygamy and monogamy. The former is found among the gallinaceous birds, the ruminants, the solipeds, pachyderms, and seals; the latter among a few crustacea, sepiæ, pigeons, and parrots, among eagles, storks, deer, and Cetacea. We may reasonably assume that among monogamous animals the conclusion of marriages, which are so faithfully kept, is not mere result of chance; but that the motives of such preference must be looked for in the nature of the couples themselves. Do we not often see, even in animals of a higher mental grade, which couple irregularly, a sexual selection accompanied by decided passion (*e.g.*, in noble stallions and dogs)? A widowed eagle usually continues unmarried for the rest of her life. It was observed that a stork sought its female, which it could not take with it on account of a wound, every spring for three years, but in the following years remained with her even during the winter. In monogamic animals sometimes the one cannot live without the other; thus, *e.g.*, of a pair of inseparables, the second often dies a few hours after the first. The like has sometimes been observed of the Kamichi, a South American marsh-bird, as well as of turtledoves and Mirikina apes.

Woodlarks can only be kept in a cage in pairs. We cannot suppose that that which has overcome the powerful migratory instinct in the stork, which kills inseparables in a short space of time, is anything else than instinct; otherwise it could not so speedily and so profoundly affect the being's core. That the various forms of the sexual relations are instincts is also proved by their unchangeableness within the limits of the species. According to the analogy of these phenomena, we must even in the case of man regard the cohabitation of spouses in marriage as an institution of instinct and not of deliberate consciousness, as also the tendency to found a family, which is closely connected therewith. The intentional pursuit of illicit *transitory* love we must, on the other hand, regard as something contrary to instinct, which is only called forth by *conscious egoism.* Here, however, I do not understand by marriage the ecclesiastical or civil ceremony, but the *intention* to make the relation a *lasting* one.

The question arises, Whether polygamy or monogamy is the form natural to man, and how it happens that the human is the only animal species where different forms of sexual relations are to be found co-existing? This enigma seems to me resolvable in this way: that the instinct of the man demands polygamy, that of the woman monogamy; that therefore, wherever the man exclusively rules, polygamy exclusively prevails. On the other hand, wherever, owing to higher cultivation, man has accorded to woman a worthier place, monogamy has become the sole legally valid form; whilst, as a matter of fact, in no part of the world is it strictly kept on the part of men. That monogamy is the form which will, in fact, prevail among mankind for the longest period of its existence, is indicated by the equal number of the individuals of the two sexes. If adulterous longings are so hard for man to conquer, this is only an effect of his polygamous instinct; but when a woman, who has in her husband a whole husband, has adulterous desires, this is either

a consequence of thorough depravity or of passionate love. The difference of the instinct in man and woman may be easily comprehended, when one considers, that a man is physically competent to beget upwards of a hundred children in a single year, but the woman can only bear one child; that the man is able under favourable circumstances to maintain several women and their children, but the wife can only dwell in one man's household, and feels herself and her children injured by every rival introduced therein; lastly, that in case of adultery only the husband, not the wife, runs the risk of regarding the children of others as his own, and of having the love for his own children undermined through distrust of conjugal fidelity.

The sexual instinct in man having now been illustrated both in the case of the race and of the individual, there still remains the question, *why* it is concentrated exclusively on *this* individual and not on *that? i.e.*, the question of the determining grounds of this fastidious *sexual selection.*

That among human beings, especially the more educated classes, the number of desirable individuals of the other sex is essentially limited, lies in the hindrances which must first be overcome, namely, aversion on both sides, and modesty especially in the female sex. The corporeal contact is so close, and is so multiplied through the instinctive accompanying actions, as kissing, &c., that the loathing, if it is not already blunted, enters into its full right, and opposes a powerful resistance to sexual union with each and every individual. Shame in the female sex, and in the male the knowledge of the resistance which this shame will arouse in opposition, are almost still more effective limitations. Both, however, only negatively explain why this and that individual are excluded, and not positively why *this* one is desired. The sense of beauty may certainly also co-operate,—just as one prefers to ride a beautiful horse, even apart from its step,

and also when nobody sees it, than an ugly one, although it is by no means obvious what beauty or ugliness has to do with enjoyment in coition, or generally with the sexual relations; for if, as *e.g.*, in Shakespeare's "All's well that ends well," the wrong person is foisted upon a passionate lover in the darkness of the night, it manifestly does not detract from his enjoyment. Vanity also, to be able to call a pretty woman one's wife before others, might have something to say in the matter, although the subject of this vanity again requires explanation; at bottom we do not get a step nearer a solution, because, in the first place, there are many pretty people, and, secondly, the handsomest are by no means the most attractive sexually. A better answer would be: The man has to conquer feminine modesty in order to attain his end; if he has once begun this work, which is only gradually effected, he has with this particular individual a lighter task before him than with others, to secure a victory for his vanity. But although this may often enough be the state of the case, still this answer is by itself altogether insufficient, not only because it again leaves the first beginning entirely to chance, but also because, if this were the determining circumstance, the mistress already won would be preferred to all fresh conquests from simple convenience, which certainly is not true.—We must then before all things maintain, that the physical impulse as such, or as one says the *senses,* are by themselves thoroughly *incapable* of explaining the concentration of the impulse on a specific individual. The mere stimulus of sense never leads to love, but only to libertinage, preferentially to the unnatural, if it is only strong enough and is not restrained from such courses by other impulses. Even where sense holds to natural courses, and seeks to attain the heightening of enjoyment by external artifices, where, in the ominous unbelief in the *metaphysical* nature of love, it imagines itself able to snatch the charm of the latter by outward gratification, even there does it soon become

aware, with disgust, that mere *flesh* always turns to *carrion*, and, instead of love, it folds to its heart only its repulsive corpse. As certainly as a putative love without sense is only the fleshless and bloodless spectral fancy of the perverted soul, so certainly is mere sensuality only the soulless corpse of the foam-born goddess. The whole of the following proof rests on this foundation, that *sense* can only explain the snatching at *some* sort of sexual *enjoyment*, but never sexual *love*.

It would seem, then, that it must be mental qualities, which condition sexual selection. It is quite impossible directly to suppose this, since in respect of sexual enjoyment mental qualities are perfectly indifferent, still more indifferent than corporeal beauty. The statement could therefore be only understood to imply that mental qualities call forth a mental harmony and mutual attraction, which rest on conscious foundations, and promise the greatest possible happiness in future cohabitation. This conscious relation of souls, which is entirely identical with the notion of friendship, would then condition sexual selection, *i.e.*, be the cause why the sexual intercourse with the specially favoured individual is preferred to all others. This process is, in fact, a very common one, especially on the side of the female sex, which cannot choose, but is chosen. It is by no means usually to be expected that a bride should have any other love than this for a bridegroom whom her parents propose for her, or to whom she has for the first time spoken in private when he made his declaration, and her interest in whom has no deeper root than the bare supposition of his being interested in herself. Having become betrothed, she strains her fancy to apply to this single being all the extravagances she has ever read of in romances, swears love for him, soon herself believes in it, having grown accustomed constantly to unite his image with her excited general sensual impulse, and afterwards obeys at once her duty and her inclination, when she remains faith-

ful to this man, the father of her children, for whom she has conceived respect and friendship, and to whom she has grown accustomed. Closely examined, however, all these ingredients—general sexual impulse, fancy, respect, friendship, fidelity to duty, &c.—mingle and blend them as one may, still give no spark of what may and should be singly and alone denoted by the name love; and what appears to be such is for the most part a delusion of others, and soon even of the actors themselves, since after the given pledge, they are bound in a becoming fashion to give away also a heart of love, and for the rest, in the happy hours of betrothed lovers, they sufficiently amuse themselves. The bridegroom believes the cheat as willingly as the bride practises it, for what does not man believe if only it sufficiently flatters his vanity? After the wedding, when both parties have other things to think of, the comedy comes to an end soon enough, whether it be played in earnest or in jest.

The essential fact of the matter is, that the *conscious* knowledge of mental qualities can always and ever only bring about *conscious* mental relations, respect and friendship, and that friendship and love are things different as light from darkness. Friendship can also awake no love, for when, *e.g.*, in a friendship between two young people of different sex, a little love easily insinuates itself, this is only a liberation of the general sexual impulse in a direction facilitated by mutual confidences, or they might have fallen in love even without friendship, and this slumbering potential love has been only aroused through opportunity. But there may very well be, at least on the man's side, a pure friendship without any sexual ingredients (especially if the sexual love is already fixed in another quarter), and if this is said not to be possible on the woman's side, this is only because women are generally capable of no pure and true friendship, with men as little with one another, because friendship is a product of the conscious mind, but they are only capable of what

is great, when they draw from the well of the unconscious life of the soul. That friendship is a much more indispensable and solid foundation of a lasting good relation for the individual wellbeing of the married pair than love does not admit of doubt; and it is a fortunate circumstance that the same relation of characters and mental qualities, which has power to evoke the strongest love, forms at the same time the best substructure of friendship, that is, as we shall see later on, the *polar completion*, which includes fundamental harmony as well as diametrical opposition on this common ground. It is only to be remarked that in friendship the stress is laid on harmony, but in love on contrast, so that there still remains a wide possibility of divergence between love and friendship in the same persons. At all events, friendship, which in the majority of marriages must either take the place of love from the first, or comes imperceptibly to be substituted for it in course of time, is something by no means problematical, but the problem, with which we are here concerned, is that love which precedes sexual union, and passionately urges to it.

Two true friends, just as two lovers also, cannot live without one another, and are capable of making sacrifices for each other, but what a difference between friendship and love! The one a beautiful mild autumn evening of full-toned colour, the other an awful rapturous vernal tempest; the one the lightly-living gods of Olympus, the other the heaven-storming Titans; the one self-sure and self-satisfied, the other "hoping and fearing in passionate pain;" the one perceiving its limits with full consciousness, the other always striving after infinitude in longing, joy and sorrow, "now shouting in triumph, now sunk in despair;" the one a clear and pure harmony, the other the ghostly tinkling and rustling of the Eolian harp, the eternally incomprehensible, unutterable, ineffable, because never to be grasped by consciousness, the mysterious music sounding from a home far far away; the one a

bright temple, the other an eternally veiled mystery No year passes in this our Europe without a number of self-murders, double murders, and cases of insanity due to unsuccessful love; but I know no instance of any one having killed himself or lost his wits through unreturned friendship. That and the many existences marred by love (especially of women, and were it only for weeks or months) prove clearly enough, that in love one has not to do with a farce, a romantic drollery, but with a very real power, a demon who ever and again demands his victims. The sexual doings of humanity in all the easily pierced masquerading and mumming are so singular, so absurd, so comical and ridiculous, and yet for the most part so tragical, that there is only one way of failing to see the whole absurdity, that is, by standing in the midst of it, when it appears to us, as to a drunkard in a company of drunkards; we find everything quite natural and in order. The only difference is, that every one can when sober have the instructive spectacle of a drunken revel, but not be sexless; or one must be far gone in years, or must (as I myself) have already observed and reflected on these doings *before* having taken part in them, and then have doubted (as I have), whether oneself or all the rest of the world was crazed. And all this is brought about by that demon, whom already the ancients feared.

But now, what then is that demon, who thus sprawls himself out and will into the infinite, and makes the whole world dance on his fool's rope, what is he then in fine? His *goal* is sexual satisfaction, not exactly sexual satisfaction in general, but only with this particular individual, whatever shift he may make to disguise and deny it, and however big he may talk with hollow phrases. For if it were not this, what should it be? Return love? No indeed! With the hottest return of love is no one seriously contented, even with the possibility of constant intercourse, if the *impossibility* of possession be clear, and many a one in such a situation has blown out

his brains. For the *possession* of the beloved one, on the other hand, the lover gives up everything; even if return love is utterly wanting he can be consoled with possession, as the many marriages prove, which are brought about by base bribing of the bride, or the parents, with rank, wealth, birth, &c., and finally the instances of rape confirm, where even *crime* is not shunned by the demon of love. But when the sexual power is extinguished, there love also is extinguished; read the letters of Abelard and Heloise; *she* still all fire, life, and love; *he* cool, babbling friendship. So, too, immediately after satisfaction passion perceptibly declines, if it do not also directly disappear, which, however, often speedily follows, although friendly and so-called Platonic love may always continue. No passion of love very long survives enjoyment, at least not in the man, as all experience testifies, although it may at first increase for a brief time; for whatever subsequently is attributed to love in *this* sense is mostly feigned for other purposes. Love is a tempest; it does not discharge its electrical material in a single flash, but by degrees in many; and when it has discharged itself, then comes the cool wind, and the sky of consciousness gets clear again, and gazes in astonishment at the fertilising rain on the ground, and the clouds drawing off in the distant horizon.

The goal of the demon, then, is really and truly nothing but sexual satisfaction, and with a particular individual, and everything connected therewith, as, harmony of soul, adoration, admiration, is only weak and false show, or it is something else, something next door to love. The test is simply this, does it disappear without a trace when the cool wind comes? What then remains has not been love, but friendship. It is however *by no means* thereby affirmed that he who is possessed by this demon must have the goal of sexual satisfaction in his *consciousness;* on the contrary, the highest and purest love will not at all confess this aim, and especially in a first love the thought is certainly far away, that this nameless longing should

have merely this end. Even if the thought of sexual union is obtruded from without, it is at this stage rejected from consciousness with chaste aversion, as one inadequate to the infinity of longing and hope, and unworthy the unapproachable sublimity of the dreamt ideal; and only in later stages does the unconscious aim come to appear in consciousness, though always as *secondary*, when the heavenly dream has so far descended to earth as to see in sexual union no longer a desecration of its ideal,—a point of view for whose speedy advent Nature has taken good care, by instinctively compelling the lovers to pass from the tenderest glances step by step to ever more intimate bodily contact, each one bound up in ever stronger stimulation of sense. The illimitable nature of the longing and striving spring, then, precisely from the ineffableness and incomprehensibility of a conscious goal, which would be absurd want of aim, were not an unconscious purpose the invisible spring of this powerful apparatus of feeling,—an unconscious purpose, of which we can only say that the sexual union of these particular individuals must be the means to its fulfilment. Only when this sole and exclusive goal has not yet as such (either not at all, or only as secondary goal of endeavour) entered into consciousness, is love a perfectly healthy process, a process without inner contradiction; only then does feeling possess that innocence which alone lends it true nobility and charm. When on the other hand sexual intercourse is recognised by consciousness as the *only* aim of the extravagance of the feeling of love, love as such ceases to be a healthy process; for from that moment consciousness also perceives the absurdity of the vastness of this impulse, the want of proportion in means and end in relation to the individual, and it now enters into the passion with the certainty for *its* part of doing a stupid thing—an uncomfortable feeling from which it can just as little ever again completely free itself, as from egoism itself.

Only when the purpose of love has not yet become

conscious, when the individual concerned does not know that the blending of essence hoped and longed for by the mysticism of love in the union with the beloved one is only to be effected *realiter* in a third party (the offspring) only then does it possess the power to take captive the individual with all his egoistic interests so ruthlessly, that even the highest sacrifices appear insignificant and naught in comparison with the dreams of heaven, and the high purpose of the Unconscious is fulfilled with *perfect regardlessness.* On the other hand, when a human being, who has believed himself to have overcome the illusion, is again caught by consuming passion, love often shapes itself to his consciousness as a gloomy dæmonic power, so that he appears like a madman with full understanding, who, lashed by the fire of passion, no longer even believes in the happiness, to which, as it were without his will, he brings his all as an offering, for which he may even be compelled to commit a crime. Quite otherwise is it when the innocence of unconscious youth looks for the first time upon the *fata morgana* which the Eden of promise shows it in the refulgence of the glowing dawn. Then the mystical presentiment of the eternal unity of all unconscious being, and of the unnaturalness of separation from the beloved one, rises before it, then the longing springs up and glows, to annihilate the limitations of individuality which separate from the loved one, to perish and to be merged with the whole self in that being that is dearer to it than its own, in order, like a phœnix consumed in the love-flames, only to find again the better life in the beloved object as unselfish part of its own self. And the souls which are one without knowing it, and which can approach no nearer by ever so close an embrace than they eternally are, pine for a blending which can never be theirs so long as they remain distinct individuals. But the supreme significance of the sole result, in which they actually effect a real blending of their qualities, their virtues and vices (to say nothing of older ancestral claims

never to be silenced) they so completely misapprehend, that they afterwards think themselves bound to deny it to have been even the unconscious goal of their ardent longings (comp. "Ges. Phil. Abhandl.," pp. 86, 87).

We have now got so far as to recognise the love to a particular individual as an *instinct*, for we have found in it a continual series of efforts and actions all working towards a single aim, which yet does not appear in consciousness as the one sole aim. The final question is only this: What is the significance of that unconscious purpose, what is the meaning of an instinct, which calls forth such an obstinate selection in sexual gratification, and how is it furthered by the sight of just this particular individual? Of that which can interest the household of Nature and make instinct necessary, manifestly nothing further is changed by the sexual selection of individuals than the bodily and mental constitution of the child. There remains then, after the previous discussion, the sole possible answer given by Schopenhauer, ("Welt als Wille und Vorstellung," vol. ii., chap. 44, Metaphysic of Sexual Love), namely, that the instinct of love provides for a composition and constitution of succeeding generations corresponding as far as possible to the IDEA of the human race, and that the dreamed-of bliss in the arms of the beloved one is nothing but the deceptive bait, by means of which the Unconscious deludes conscious *egoism*, and leads to the sacrifice of self-love in favour of the succeeding generation, which conscious reflection could never effect by itself. It is the same principle, in special application to man, which Darwin subsequently established in his theory of natural selection as general law of nature, namely, that the *ennoblement of the species* is brought about, in addition to the succumbing of the more unfit specimens of the race through the struggle for existence, by means of a natural *instinct of sexual selection.* Nature knows no higher interests than those of the race, for the race is related to the individual, as the infinite to the finite. Just as *we* demand of

the individual that he consciously sacrifice his egoism, nay, his life, to the welfare of the whole, so does *Nature* with far less hesitation sacrifice egoism, nay, the life, of the individual to the welfare of the race through the medium of instinct (think of the maternal animal which does not shun death to protect its young, and the male in the rut, which fights even to death for the possession of the female). This can certainly only be called wise and motherly. *We* compel the conscious sacrifices of the individual through *fear of punishment;* Nature is kinder, she compels them through *hope of reward;* that is certainly more motherly! Therefore let no one complain of these hopes and their disillusion, unless, like Schopenhauer, he has to complain of the existence and persistence of Nature. For the rest the juggling delusion is as *wholesome* and as *indispensable* as that which parents often see themselves compelled to impose upon children for their good. For of all natural ends there can manifestly be *none higher* than the welfare and most favourable constitution of the next generation, since not that generation alone, but the whole future of the race is dependent thereon; thus the affair is, in fact, highly important, and the noise, which is made about it in the world, by no means too great. But nevertheless the want of proportion between means and end (love-passion and nature of the child) appears, when once comprehended, absurd *to the consciousness of the individual*, and the process of love is charged for him with an inner contradiction to his egoism; for possibly conscious thought *in abstracto,* but hardly conscious will *in concreto,* can disengage itself from the point of view of egoism, at the most it may be brought by deeper insight passively to permit Nature's ends to be accomplished in preference to its own.

The description in detail of the way in which the bodily and mental qualities act on the Unconscious, and excite the unconscious will to beget this particular new human being which must result from the intercourse of these individuals, has been given in a masterly manner by Scho-

penhauer. I refer to the chapter cited above, and only give here a short abstract for completeness' sake. Two prime factors are to be distinguished: (1) individuals exert a greater sexual charm the more completely they represent corporeally and mentally the IDEA of the race, and the more nearly they approach the acme of the procreative power; (2) that individual has the greatest sexual charm for any other individual which, as far as possible, neutralises the latter's defects by opposite defects, thus producing a child which represents the type of the race in the greatest possible perfection. One sees that under the first head will come the bodily and mental attractive force of symmetry, beauty, nobility, and grace, to cause the awakening of sexual love, and one also now understands how it comes about, namely, by the circuitous path of an unconscious final causality, whilst before it was not at all evident how bodily and mental excellence could have anything to do with sexual love. The influence of age is likewise explained by the acme of procreative power (18–28 years for the woman, 24–36 for the man). As another example, I may instance the powerful charm which a voluptuous female bosom exerts on the man; the medium is the unconscious idea of the abundant nutrition of the new-born child. A powerful muscular frame (*e.g.*, calves) also promises a powerful constitution of the child, and thus exerts a considerable charm. All such trifles are most carefully reviewed, and people talk about them with an air of importance, but no one reflects what an insignificant more or less in calves and bosoms have to do with the sexual pleasure.

The first point contains the reason why, *generally* speaking, the individuals with the most perfect mental and bodily constitution appear most desirable to the other sex; the second point, why the same persons appear to have very different attractive power for members of the other sex, and why totally different natures are the most captivating of all. Both points may be anywhere put to the

test, and they are found confirmed in the smallest details, *if only a deduction be always made* for what is *not* desired and wished for from immediate instinctive sexual inclination, but from other rational or irrational conscious motives. Tall men prefer short women, and *vice versâ;* thin, stout; snub-nosed, long-nosed; blondes, brunettes; the intellectual, the naive; always, be it understood, only in sexual relations. Æsthetically, people do *not* generally find their polar contrasts beautiful, but their doubles. Many tall women will also, from vanity, refuse to marry a short man. It is clear that the sexual pleasure rests on *quite other* suppositions than the practical, moral, æsthetic, and agreeable, which explains the passionate love for individuals whom the lover in other respects cannot help hating and despising. Truly passion in such cases does all that is possible to *dazzle* the calm judgment, and to attune it in its favour; it is therefore decidedly correct that there is no sexual love without blindness. The disillusion which occurs on the decline of passion essentially contributes to strengthen the conversion of love into indifference or hate, as we even find the latter frequently at the bottom of the heart, not only in amours, but even among married people.

It is well known that the strongest passions are not excited by the most beautiful individuals, but, on the contrary, more frequently by the ugly. This is owing to the circumstance that the strongest passion consists only in the most concentrated individualising of the sexual impulse, and this arises only by the encounter of qualities in polar opposition. In nations, where life is generally less intellectual than sensuous, the bodily qualities almost exclusively decide the issue, wherefore also among them the instantaneous origination of the most violent passions. On the other hand, among the educated classes of nations of higher mental development, even with respect to influence on the unconscious sexual choice, the mental qualities outweigh the corporeal. Accordingly, here for the most part a closer

acquaintance is necessary for the birth of love, unless the lucid vision of the Unconscious, stimulated by the view of a certain countenance, serve the same end, as may often occur, especially in the case of women, who stand nearer to the source of the Unconscious. But also among men of a highly intellectual cast of mind, the experience is sufficiently common of a first meeting with a rare feminine nature involving them in enchanted and indestructible bonds, to seek a cause for which the mind struggles in vain. Ye who still doubt magic, action of mind on mind without the ordinary means of rational communication, through the medium of symbol, which is only understood by the Unconscious—will ye also deny Love?

The sum of this chapter is as follows: Man instinctively seeks an individual of the other sex to gratify a physical impulse, in the illusory expectation of thereby attaining a higher enjoyment than from any other kind of gratification; his unconscious aim, therefore, is, in the main, procreation. Man instinctively seeks that individual of the other sex, whose nature blended with his own, represents the type of the race in the most perfect way possible, in the vain hope of having an incomparably higher enjoyment in sexual union with this individual than with any other, nay, of absolutely partaking the most exceeding bliss. His unconscious aim therein is the begetting of such an individual as most completely represents the IDEA of the race. This unconscious endeavour after the purest possible realisation of the IDEA of the race involves no new principle, but is *the same principle, which governed organic formation in the wider sense, applied to procreation* (which is indeed only a special form of organic formation, as physiology shows), and is screwed up to a high degree of subtility through the numbers and fineness of the differences in the human race.—Among animals this factor of sexual selection is by no means wanting; it is only presented in a simpler form on account of the smaller differences, and essentially concerns only the first point, the

selection of such individuals as represent as completely as possible the type of the race. Thus, among many animals (fowls, seals, moles, certain apes), the males fight for the possession of those females which appear specially desirable. These pre-eminently desirable individuals are, among many gay-coloured animals, those with the most beautiful colours, and within the limits of a species among the different races or varieties, the individuals of the same race, *e.g.*, among men and dogs. Curs often make the greatest sacrifices in order to come together with a bitch of their own breed with whom they have fallen in love. Not only will they run many miles, but I know even a case where a dog every night, in spite of his cross clog, visited his mistress at a distance of more than five miles, and returned every morning exhausted and jaded ; as the clog was of no avail, the chain was put on him, but he then became so wild that he was again liberated,as it was feared he would go mad. There were at the time in his own yard a large number of bitches. Thorough-bred stallions, too, are said usually to disdain copulation with common worn-out mares.

Schopenhauer very correctly remarks, that we may conclude from the instinct of sexual love, which we ourselves possess, to the instincts of animals, and assume that even among them consciousness would be disappointed of the expectation of a special enjoyment. This illusion arises, however, only from the impulse, is proportional to the strength of the impulse, and is nothing else but the impulse itself combined with the application of the conscious experience, that the pleasure of the gratification of an impulse is generally proportional to the strength of the impulse, a supposition which is not confirmed by the impulses, whose chief weight and importance appertains to the Unconscious (see sec. C. Chap. iii.), and therefore becomes a deceptive illusion. This remark is, therefore, to be confined to those animals whose consciousness is capable of such generalisations; among the lower ones it stops short at the constraining impulse, without reaching to the expectation of

enjoyment.—For the rest, how useful also for the individuals of the higher kinds of animals that illusion is, is seen herein, that this sexual illusion is just the first and most important means in nature for inspiring individuals with that interest for one another, which is requisite, in order to make the mind in a sufficient degree receptive for sympathy. The ties of marriage and of the family are therefore even among animals, as among rude men, the first stages in the progress to conscious friendship and morality; they are the first flush of dawning culture, of fairer and nobler feelings, and general readiness for sacrifice.

Some may perhaps be inclined to reply that, according to the theory of polar complements, no unhappy love can occur, but this is manifestly an over-hasty and mistaken objection. For, if A is in love with B, that means B is a suitable complement to A, or A will beget *more perfect* children with B than with *others*. But now is it by no means necessary for A to be a suitable complement to B, but B can perhaps beget more perfect children with many others than with A, if, *e.g.*, A is a rather imperfect presentation of the idea of the race; consequently B by no means needs to be enamoured of A. Only when both are superior individuals will also B with difficulty find an individual with whom he can beget more perfect children than with A, and then are both simultaneously seized by passion. Then are they like the re-found halves of the parted primitive man in the Platonic myth. Add to this, that, in such a case, this polar accord is not merely to the advantage of the children, but in *another* respect, than the passion of love imagines, to the parents also; to wit, because, as before remarked, for the highest friendship, too, the polar harmony of souls is the favourable condition.

For the understanding of those to whom the result of the last chapter may seem new and repulsive, I call attention, in conclusion. to the following:—(1) That, as long

as the illusion of unconscious impulse persists intact, this illusion has for feeling the same value as truth. (2.) That even *after* the discovery of the illusion, and before complete resignation to egoism, thus in the state of the strongest most unbroken contradiction between the selfish conscious, and the unselfish, unconscious Will working merely for universal ends, that even in this state, I say, the Unconscious constantly shows itself at the same time as the superior and the master of Consciousness, and accordingly the satisfaction of the conscious at the expense of the non-satisfaction of the unconscious Will causes more pain than the reverse. (3.) Lastly, that this variance of the general unconscious with the egoistic conscious Will finds its positive reconciliation in the truly philosophical point of view (to be demonstrated in Chap. xiv. C.), where self-renunciation, *i.e.*, foregoing individual welfare, and complete devotion to the process and welfare of the universal, is presented as first principle of practical philosophy, and thus also all instincts, absurd to conscious egoism but beneficial for the whole, are *fully justified.*

We should altogether err, if we thought that the explanation of love by *unconscious* reference to an end in the child to be begotten materialised the eternal spring of the human heart, or robbed the yet innocent feelings of their fine idealistic lustre. Far from that! What could more certainly raise love above the coarseness of sensuality and for ever protect it from all relapse, than its derivation from an unconscious purpose, which is only concerned with generation, but excludes sensuality and voluptuousness from the causes of individualised love, and only permits them to be an accessory vehicle, which may better protect the infinite longing from entirely missing its unconscious purpose? Philosophic speculation does no more than unveil the illusion in which the natural man is entangled, the illusion that those mystical feelings *in themselves* possess a rational foundation or warrant. At the same time, however, it replaces this illusion by the

scientific insight that these feelings have the greatest possible authorisation, and rest on the deepest and noblest ground of all, and that they are, in fact, infinitely more important for the development of the human race than fancy permits itself to dream (comp., farther on, Chap. x. B.; and also the conclusion of Chap. xi. B.) It thus gives to the everlasting theme of poetry, which hitherto has appeared baseless illusion, by critically annihilating its imaginary value for egoism, and assigning it in compensation a quite unexpected significance in respect of the welfare of mankind, a foundation so philosophical, that the dullest Philistine must cease from mocking and acknowledge the immense practical consequence of the whole affair.

III.

THE UNCONSCIOUS IN FEELING.

IF I have toothache and a pain in my finger, there are apparently two kinds of feeling; for the one is in the tooth, the other in the finger. Did I not possess the ability to project my perceptions into space, I should not feel two separate pains, but a single compound one, just as with two pure tones (without upper tones), at the interval of an octave, only one is absolutely heard—the lower note—but with a different timbre. The local difference of the perception thus confers upon the mind the ability to dissect the pain-harmony into its elements in conformity with the differently localised perceptions—to combine one part with this, another with that space-perception, and thus to establish the duality. But now things may be spatially twofold and yet incapable of discrimination, as, *e.g.*, two congruent triangles. This can certainly not be asserted of toothache and finger-ache. In the first place, they can only be discriminated in degree, *i.e.*, in intensive quantity, and secondly by their quality; for with equal strength pain can be continuous or intermittent, burning, cooling, crushing, beating, stinging, biting, cutting, drawing, palpitating, itching, and exhibit an infinity of variations, baffling all description.

We have hitherto understood by pain the whole phenomenon, but it is a question whether this must not be philosophically prohibited, and whether we should not rather distinguish in this given whole the *sensuous perception* and the smart or *pain in the narrower sense;* for we

have often a kind of perception which produces neither pleasure nor pain, *e.g.*, if I gently press my finger or brush my skin. Whilst this perception remains qualitatively unchanged, and only increases or diminishes in *degree*, pleasure or displeasure may be felt in addition; and is the perception to be all at once included in the pain or the pleasure? We are then compelled to separate them, and soon perceive that the twain are so little one that they rather stand in a causal relation; for the perception (or a part thereof) is the cause of the pain, since the latter comes into existence and disappears with it, and never appears in its absence, although the perception may undoubtedly occur without the pain under particular circumstances.

This separation having been made, the closely allied question arises, whether the distinctions just noticed really exist in the pleasure and pain, or merely in the producing and accompanying circumstances, namely, in the perception? That pain admits of differences in intensive quantity is clear, but does it also admit qualitative differences? Most of the distinctions expressed in words apply to different forms of intermittence, as beating, drawing, palpitating, stinging, cutting, biting, even tickling. Certainly the degree of pain here changes continuously with the degree of perception according to certain more or less regular types, but nothing is to be found of an originally qualitative difference of the pain itself. One would much sooner expect this in the pleasure or displeasure which is called forth by different smells and tastes; but even there one may be convinced by careful introspection that the qualitative difference of pleasure or displeasure is altogether only apparent, and this illusion arises from the circumstance that the separation of pleasure or pain and perception has never hitherto been made, but both are wont to be comprehended with the perception as a single whole, so that now the differences of perception present themselves as differences of this single whole.—That this separa-

tion has never been made is due to the fact that, out of the infinitely multifarious composition of psychical states, one always only learns to separate those groups as independent parts, *the separation of which has a real utility for practical needs.* Thus, *e.g.*, in the accord of a full orchestra, not all tones of a certain pitch are separated out, no matter from what instrument they proceed, including their upper tones, but the upper tones of the most different parts of the scale produced by any instrument are fused with the fundamental tone of the instrument into its timbre, and the groups of tones thus formed, which represent the tones called forth from any single instrument, are alone blended into the accord, simply for the reason that the knowledge of the upper tones possesses no practical interest, but rather the knowledge of the timbres of the instruments. And this practical mode of grasping the groups of tones has become so organised in us, that that, according to mere pitch, although it must manifestly be much easier, has become purely impossible to us—so impossible that only a few years have elapsed since Helmholtz strictly demonstrated the origin of timbres by actually combining the upper tones.

Almost as impossible does it also seem to us now, in self-observation to sharply separate and keep asunder the two elements in the totality of pleasure or pain and the perceptions following and accompanying them; but that such separation must be possible any one can see from this, that both parts are related as cause and effect, and are essentially different. Whoever succeeds in making the trial will find the assertion confirmed, that pleasure and displeasure have only intensively quantitative, but no qualitative differences. Success will be the easier the simpler the examples with which one begins, *e.g.*, whether the pleasure is different in hearing a bell if the note is *c*, and if it is *d*. If insight has once been gained in such simple examples, the truth will be no less evident if one passes gradually to examples which contain greater differ-

ences in the element of perception. A confirmation of the assertion may also be seen in this, that we are able to balance different sensual enjoyments or pains against one another (*e.g.*, whether any one prefers to lay out his half-crown in a bottle of wine, or cake and ice, or beefsteak and beer, or any other sensuous gratification; or whether one will endure the toothache all day long, or rather have the tooth drawn), which *balancing* would not be possible if pleasure and pain were not in all these things only quantitatively different and qualitatively alike; for like can only be *measured* by like.

It is now also clear that *local differences* by no means concern the pain directly, but only the perception, and that only through the perception does an ideal separation of the total pain occur, one part of it being causally referred to this, and another to that perception. If now, strictly speaking, pain has no locality, and only the perception has local relation, the *duality* established by the local difference can only have reference to the perception, but not to the pain, and pain is accordingly not merely *qualitatively alike* in all cases, but is always only *single in the same moment.*

These considerations are confirmed by Wundt in his "Contributions to the Theory of Sense-Perception." He says (pp. 391, 392), "The *essential part* of pain is *identical,* whether it have its seat in one of the objective sense-organs, as the skin, or in some part of the viscera of the trunk. As pain, from whatever cause it may arise—mechanical, chemical stimulus, heat or cold, &c.—is always of the *same* nature, so it exhibits no difference in its essential character, whatever nerves of the body sensitive to pain the pain-exciting stimulus may affect." He further shows "that pain, as it is manifested in the sense-organs proper as only the highest pitch of sensation, so in all the other sensitive organs it is nothing else but the most intense sensation, which follows on the strongest stimuli; that, on the other hand, all organs which are at

all capable of the sensation of pain have also power to serve as media of *sensations*, which cannot be termed *pain*, but which stand in respect of each organ for that which in the case of the sensory organs is the *specific sensation*" (p. 394). "If once attention be called to these precursors and successors of pain, they can also be distinctly perceived, if they do not stand in connection with preceding or succeeding pains" (p. 393). "As we only attend to them when they rise to the pitch of pain, language has also only distinctive designations for the peculiarity of the *pain* of different organs" (p. 395). It is, then, these specific organic sensations, corresponding to the sensations of the special senses, in conjunction with the secondary affection of adjoining tissues, which condition the different colouring of pain, without altering the identity of its essence.

Whoever has apprehended the similarity of pleasure and displeasure in sensuous, will soon admit it also in mental feelings. Whether my friend A or my friend B dies may possibly change the degree but not the kind of my pain, no more than if my wife or my child dies, although my love to both has been of quite a different kind, and also the ideas and thoughts which I entertain on the nature of the loss are quite different. As pain in general has been caused in this case through the representation of the loss, so also in the complex of feeling and thought which one usually comprehends under pain, a difference is introduced through the difference in respect of the loss; but if one again detaches what is pain and nothing but pain, not thought and not imagination, it will be found that this again is identical. The same holds good of the pain which I feel for the loss of a wife, the loss of property which makes me a beggar, and of the loss of my office and my honour owing to calumny. What is pain and nothing but pain is everywhere only different in degree. Likewise in the pleasure which I feel when another, after a long resistance, yields to my stubborn

will, or if I gain a prize in a lottery or obtain a higher post.

That pleasure and displeasure are everywhere alike again follows from this, that one is compared with the other, on which balancing of pleasure and displeasure in the feelings every rational practical reflection, every resolution of mankind depends; for one can indeed only measure *like by like*, not hay by straw or pecks by pounds. In the fact that the whole of human life and the determining grounds of action therein depends on a balancing of the most different kinds of pleasure and displeasure there is implicitly and unconsciously contained, as fundamental condition, the assumption that such different kinds of pleasure and displeasure may in general be weighed against one another; that they are commensurable, *i.e.*, that that which is compared in them is *qualitatively identical.* Were this tacit supposition false the whole of human life would rest upon a prodigious illusion, whose origin and possibility would be absolutely incomprehensible. The *commensurability* of pleasure and displeasure in themselves, which is already expressed in language in the nominal *identity* of all kinds of pleasure and pain, must thus be unconditionally assumed as fact, and it holds good not merely of different kinds of sensuous pleasure, but just as much for sensuous and mental pleasure and displeasure. Think of a man who has the choice of marrying one of two rich sisters, the one clever and ugly, the other stupid and pretty. He weighs the supposed sensuous and mental pleasure against one another, and according as this or that appears to him to preponderate he makes his decision. In the same way a girl led into temptation weighs the pleasure from honour, from virtuous pride, and the hope of the future dignity of a housewife against the pleasure from the promises of the seducer and the joys beckoning her to his side. Again, a believer compares the heavenly joys which are said to flow from earthly renunciation with those earthly joys which he is to renounce, and ac-

cording to the apparent predominance of the one or the other does he seize the earthly or the heavenly part. Such a weighing of sensuous and spiritual pleasure, and the supposition of the essential likeness on which it rests, would only be unintelligible if sensuous and mental were altogether heterogeneous provinces severed by a fixed gulf. This is, however, not the case. The sensuous, too, so far as it is feeling, rests on a subjective spiritual basis; and the spiritual also, so far as it fills consciousness, forms only the blossom of the tree of sense on which it has grown, and from which it can never be torn.

We consider, then, the result established that pleasure and displeasure are in themselves only one thing in all feelings, or that they are different not in quality, but only in degree. That pleasure and displeasure neutralise one another, are related as positive and negative, and the zero between them is the indifference of feeling, is clear. Equally clear is it that it is indifferent which of the two one is inclined to assume as positive, just as indifferent as the question whether the right or the left side of the abscissa be taken as positive (that accordingly Schopenhauer is wrong when he declares displeasure the alone positive and pleasure its negative; he thereby commits the error of confounding contrary and contradictory opposition).

But now the question is, what, then, are pleasure and displeasure? That the mental representation is one of their causes we have seen, but what are they, then, themselves? By mental representation alone they will certainly never be explained, much as ancient and modern philosophers have tried. The simplest self-observation gives the lie to their unsatisfactory deductions, and says that pleasure and displeasure, on the one hand, and thought on the other, are heterogeneous things, which only with great straining can be confounded. On the other hand, it has been acknowledged by most important thinkers of all times that pleasure and displeasure stand in the closest connection with the inmost life of man, with his interests and

inclinations, his desires and strivings,—in a word, with the kingdom of the will. Without intending to enter here more minutely into the opinions of individual philosophers, it may comprehensively be said that all their opinions may be reduced to two fundamental views,—either they conceive pleasure as satisfaction, displeasure as non-satisfaction of desire, or, conversely, desire as idea of future pleasure, aversion (negative desire) as idea of future pain.[1] In the former case will, in the latter feeling, is conceived as the original. Which of the two is correct it is not difficult to see; for, in the first place, in Instinct will, in fact, exists before the representation of pleasure; its proper goal is there another than the individual pleasure of satisfaction; in the second place, possibly through the explanation of pleasure as satisfaction of the will everything in pleasure is sufficiently explained, but not, conversely, everything in the will through the explanation of the same as idea of pleasure. Here the properly impelling factor, the will, as *active causality*, remains perfectly incomprehensible, just because the will is the *externalisation*, but pleasure and displeasure the *return* from this externalisation *to self*, and is therewith the *close* of this process; therefore the *will* must be *the primary*, pleasure the secondary moment.

If we provisionally allow this view to pass, we obtain an unexpected confirmation of the essential identity of pleasure and displeasure in all feelings. We have seen before that volition is likewise always one and the same, and, in the first place, is only discriminated according to the degree of strength, and, in the second place, according

[1] Although the feeling of present non-satisfaction may be always united with positive desire, the feeling of a present (but doubtfully enduring) relative satisfaction frequently with the negative; yet these *present* sensations can in no case be conceived as the desire itself, but only as cause of the desire (more exactly, as occasions or opportunities which indicate to the uprisen or actual world-will the path of its manifestation in the world-process). For desire itself necessarily refers to a not yet existing future state, could, accordingly, always only be explained as an idea or fore-feeling aroused by those present feelings or strengthened by them (comp. Sect. A. Chap. iv.)

to the object, which, however, is no longer will, but idea. If now pleasure is the satisfaction, and displeasure the non-satisfaction of the will, it is clear that these also must always be only one and the same, and can merely be different in degree; but that the apparent qualitative distinctions which they contain are given by accompanying ideas, partly by those which make the object of will, partly by those which bring about the satisfaction of the will. From this there results, for all emotional states, notwithstanding their multiplicity, so great a simplicity that, according to the ancient saying, "*simplex sigillum veri*," this must be regarded as a support to the assertions from which it follows, just as these mutually support and render one another probable through the force of analogy.

The reasons why I have at this particular place touched on these problems of the conscious psychical life are contained in the following two complementary propositions from the psychology of the Unconscious:—(1.) *Where one is conscious of no will in the satisfaction of which an existing pleasure or displeasure could exist, this will is an unconscious one; and* (2.) *the obscure, ineffable, inexpressible in feeling lies in the unconsciousness of the accompanying ideas.* Because the conception of the unconscious *will* was wanting in previous psychology it could not conscientiously unconditionally accept the explanation of pleasure as satisfaction of the will, and because it lacked the notion of the unconscious *idea* it did not know how to deal with the whole province of the feelings, and therefore limited its consideration almost exclusively to the department of thought.

As example of a pleasure through the exercise of unconscious will, one may take the instincts where the purpose lies in the Unconscious, *e.g.*, the maternal pleasure in the new-born child, or the transcendent bliss of the happy lover. Here no will whose satisfaction corresponds to the degree of pleasure at all emerges into consciousness; but we know the metaphysical power of that unconscious

will whose special effects are the several instinctive desires, and which obtains satisfaction through their realisation; and it must be an exceeding high and strong will indeed, whose satisfaction has for its consequence those phenomena of extravagant pleasure, of which the poets in all ages did not know how to sing in strains sufficiently lofty.

Another example is the sensuous pleasure and pain which result from nerve-currents of a certain kind. Lotze, in his "Medical Psychology," shows that sensuous pleasure always occurs along with a furtherance, and pain with a disturbance of organic life. This conscientious investigator, however, expressly acknowledges that only a uniform concomitance can be established, but that what we mean by pain can by no means be derived from the general notion of vital disturbance, that consequently there must be a deeper law connecting the two. Now this is manifestly the unconscious will, which we have become acquainted with as principle of organisation, self-preservation, and self-restoration. As soon as disturbances or furtherances in the sphere of organic life are of such a nature that they are telegraphed to the brain, the satisfaction or non-satisfaction of this unconscious will must be felt as pleasure or displeasure. (For the refutation of some replies to the above assertions on sensuous pleasure and displeasure I refer to Lotze, 2d book, 2d chapter.)

That we very often do not know what it is we really will, nay, even often imagine we are willing the contrary, until by the pain and pleasure resulting from the decision we are instructed concerning our true will, every one will probably have had opportunity of observing in himself and others. In these doubtful cases we often naïvely think that we are willing what appears to us good and laudable, *e.g.*, that a sick relation, whose heir we are to be, may not die, or that in a collision between the common weal and our individual weal the former is preferred, or that an engagement formerly entered into may be kept, or that

our rational conviction and not our inclination and passion may gain the day. This belief may be so strong that afterwards, if the decision falls out contrary to our supposed will, and yet no grief but an unbounded joy takes possession of us, we do not know how to give over astonishment at ourselves, because we are now suddenly aware of disillusion, and learn that we unconsciously have willed the contrary of what we had imagined. Since, now, in this case, we only conclude to our proper will from our pleasure (or pain), this pleasure is manifestly the sign of the satisfaction of an unconscious will. This becomes still more evident if we consider how, from the excessive astonishment that such a will can have unconsciously existed in our own soul, the transition is quite gradual through the stages of slight suspicion, doubt, and conjecture that one indeed willed otherwise than was imagined to the final open self-deception, where we very well know how we willed, but endeavour to persuade ourselves and others, with more or less success, that we willed just the opposite. Closely allied are the cases in which the temptation to self-deception does not at all exist, and the surprise which accompanies the pleasure only consists in this, that for a very long time the will has not emerged into consciousness, as, *e.g.*, when a friend believed to be long dead suddenly enters my room. Even then it is our unconscious will whose satisfaction takes the form of *fearful joy*, but I now do not need to infer the existence of this will in myself from the occurrence of pleasure, but can directly assume it from the *memory* of earlier times, when I have often wished to enclose the lost friend once more in my arms.

We know from Chap. iv. A. that the conscious and unconscious will are essentially distinguished by this, that the idea which forms the object of will is conscious in the one case, unconscious in the other. When we recall this proposition, we perceive the transition of pleasure or pain from unconscious will to those feelings which are

somewhat obscure in that their *quality* is entirely or partially conditioned by *unconscious* ideas. We now see that the former is only a special case of the latter, in that in the former the ideas which form the content of the satisfied *will* remain unconscious, and perhaps only the ideas which *bring satisfaction* become conscious (as, *e.g.*, in maternal love); but this does not quite meet the cases where, immediately on the occurrence of pleasure or displeasure, the existence and the *kind* of the unconscious will are inferred by consciousness, because the latter could only hesitate between two or a very few species of will.

But now the circumstances are rarely so simple that the feeling consists in the satisfaction or non-satisfaction of a single definite desire, but the most different kinds of desires cross one another in the greatest number at every moment, and by the very same event some are gratified, others not gratified; accordingly there is neither *pure* nor *simple* pleasure and displeasure, *i.e.*, there is no pleasure which does not contain a pain, and no pain with which a pleasure is not bound up, but there is also no pleasure which is not compounded of the simultaneous satisfaction of the most different desires. As actual volition is the resultant of all contemporaneous desires, so is also the satisfaction of the will the resultant of all simultaneous satisfactions and non-satisfactions of particular desires; for it comes to the same thing, whether one operates directly with the resultant, or with the several components, and then takes the resultant of the partial results. Now it is evident that one part of the several desires may be conscious, another may, nay, for the most part, will be unconscious; then is the pleasure also compounded of those pleasures which are determined by conscious and those which are determined by unconscious ideas. The latter fact must give that obscure character to the quality of the feeling, that constant remainder, which, with all our effort, can never be grasped by consciousness.

But there are other points besides the unconscious will

where unconscious ideation determines the speciality of the feeling, to wit, the perception or idea producing the feeling may be unconscious to the brain, strange as it at first seems. For it might be thought the idea which produces the satisfaction of the will can only come from outside, or through cerebrally conscious ideation in the play of fancy, and in both cases the resort to consciousness cannot be avoided. But in this it is forgotten that there are other central nervous parts which, just as much as the brain, have a consciousness *per se* which is capable of pleasure and pain. But now one can well imagine, that the feelings of pleasure or pain of these centres can easily be conducted to the brain, without the conduction being so well contrived, that the perceptions themselves, which produce in those centres pleasure or pain, could reach the brain. In this manner the brain probably receives pleasant and painful sensations which have been conducted to it, but not their grounds of origin; and therefore such feelings and moods reflected from other centres in the brain have something very incomprehensible and enigmatical about them, although their power over the cerebral consciousness is not seldom very great. The latter, then, generally searches after other apparent causes of its feelings which are by no means the correct ones. The less the cerebral consciousness has raised itself to a certain independence and elevation, the more power do the moods springing from the relatively unconscious possess over it; thus in the female sex more than in the male, in children more than in adults, in the sick more than in the healthy. Most distinct are these influences in hypochondria, hysteria, and at the period of important sexual changes, *e.g.*, puberty and pregnancy. These influences are also by no means merely expressed in *moods, i.e.*, in the *disposition* to entertain cheerful or gloomy feelings, but they even directly give rise to *feelings* in the cerebral consciousness, as is again best observed in persons suffering from hypochondria.

"Look at that child: what wild delight, what merry skipping, what gladsome laughter, what a glistening eye; all questioning as to the cause would be in vain, or the causes enumerated would be utterly disproportionate to the glee. And suddenly, and again without any conscious reason, all is changed; the child is quietly lost in itself, its eye troubled, its lips pouting, on the point of weeping, peevish and sad, whereas a moment before it was contented and full of mirth" (Carus's "Psyche"). Where else should these feelings, whose peculiarity it is to be referable only to unconscious ideas, take their rise than from vital perceptions of the lower nerve-centres? That in man the power of these feelings appears to us so much the greater the less the independence of the cerebral consciousness, permits us to conclude that among the animals their significance is likewise the greater the lower we descend in the animal scale, which might be expected *à priori*, since in this descent the mental enjoyments and sufferings of the human cerebral consciousness dwindle more and more.

One will now see how, also, other sensuous feelings which, in part, are determined and accompanied by clearly conscious perceptions of the brain, for the rest remain obscure and unintelligible so far as they are brought about by perceptions and feelings of lower centres. Thus, *e.g.*, one may compare the facility with which we can reproduce completely and clearly, as mere idea, any simple feeling that is determined by the perception of the higher senses leading direct to the brain, with the want of success in trying to recall clearly and completely hunger and thirst or sensual enjoyment.

Lastly, there remains the possibility that yet other unconscious ideas help in determining the special nature of the states of feeling. We have, namely, already seen above that sensuous perception frequently only has for its consequence a sensation of pleasure or pain if it occurs with a certain strength, whilst it persists of itself *below*

this degree, as indifferent objective perception, without causing such a feeling. But now hardly any sensuous perception is quite simple, but is compounded of a number of elements which are only combined into a unity through the common act of perception. Still one or several of these partial perceptions may very well be followed by feeling, whilst the other partial perceptions remain indifferent in respect of feeling. Nevertheless, if the union of these different partial perceptions into one total perception is not accidental, but grounded in the nature of the object, not only will those productive of feeling, but also the *indifferent* parts of the whole perception, *blend* with the feeling, and help, at the same time, to determine the quality of the whole mental state, because, indeed, the mind has no interest in undertaking the separation of the feeling-producing from the indifferent parts. Thus, *e.g.*, every characteristic property of the vocal timbre and note influences the character of the pleasurable feeling which is produced in me on hearing a particular singer, and were it not that these slight differences, which only just enable me to distinguish different voices, possess the power to produce a difference in the *degree* of the enjoyment, I should not be in a position to separate the enjoyment, which I have experienced in hearing this particular singer, from those fine shades of the indifferent perception, without losing the special quality of the feeling experienced. This only proves that we have never practised ourselves in separating out what is properly pleasure and displeasure in our psychical states, but have comprehended all states of the mind in which pleasure and displeasure appear, including all accompanying perceptions and ideas (nay, even desires), under the term *Feeling*. One now sees that even among the merely *concomitant* perceptions there may be some unconscious for the brain, as has just been shown in the case of those *productive* of feeling. Still more important, however, do these concomitant ideas become when we pass from the sphere of sensuous perception into that of intellection

We have now reviewed in general the different modes in which feeling may be determined by unconscious ideas, and perhaps on this occasion already the importance of unconscious ideas for the whole emotional life may have also become visible. This importance cannot be rated too highly. Let any one take for test whatever feeling he pleases, and seek to grasp it with perfectly clear consciousness in its whole extent. It is in vain; for unless satisfied with the most superficial explanation, he will constantly stumble on an *irresolvable* remainder, which mocks at every endeavour to illuminate it with the burning-glass of consciousness. But now, if one asks, what then has been done with the part that has become clear whilst it has been embraced with full consciousness, we shall be obliged to say that it has been translated into thoughts, *i.e., conscious ideas,* and only so far as feeling has been translated into thoughts has it become clearly conscious. But that feeling, even if only partially, has been recast into conscious ideas, sufficiently proves indeed that it already unconsciously *contains* these ideas, for otherwise the thoughts would, in fact, not be *the same* as the feeling. If the previously unconscious part of feeling, on being passed through consciousness, shows itself as material of thought, we may suppose the same also of the part of the feeling not yet interpenetrated by consciousness; for both in the individual and in humanity as a whole, the boundary between the not-understood and the understood part of feeling is always shifting.

Only so far as the feelings can be already translated into thoughts, only so far are they *communicable*, if we disregard the always extremely scanty instinctive language of gesture; for only so far as feelings are capable of being translated into thoughts are they to be rendered into *words.* One knows, however, what difficulty there is in the communication of feelings; how often they are unrecognised and misunderstood; nay, even how often they are declared to be impossible. In general, feelings

can only be understood by him who has had them ; only a hypochondriac understands the hypochondriac, only he who has loved, the lover. How often, however, do we fail to understand ourselves ; how enigmatical often are our own feelings, especially when they occur for the first time; how liable are we to the greatest self-delusions with regard to them ! We are often mastered by a feeling which has already struck firm roots in our inmost being without our suspecting it, and suddenly, on some occasion or other, there fall, as it were, scales from our eyes. One has only to remember how often the souls of pure girls are completely possessed by a first love, which they would with a good conscience stoutly deny ; but should the unconsciously loved one incur a danger from which they can save him, then all at once the hitherto bashful maiden stands forth in the full heroism and sacrificing spirit of love, shunning neither ridicule nor slander. Then, however, she also knows at that same moment *that* she loves and *how* she loves. But as in this instance love, so at least once in a lifetime every spiritual feeling, has existed in us, and the process in virtue of which we become self-conscious once for all, is the translation of the unconscious ideas which determined feeling into conscious ideas, *i.e.*, thoughts and words.

IV.

THE UNCONSCIOUS IN CHARACTER AND MORALITY.

THERE is no manifestation of will without an exciting cause or motive. The will of the individual is primarily potential, a latent force, and its passage into the manifestation of energy, into definite volition, requires as sufficient reason a motive which always possesses the form of a mental representation. These psychological premisses I assume. Volition as such only differs in intensity. All other apparent attributes of the volition belong to its contents, *i.e.*, to the mental pictures of the objects of volition, and this content again is connected with the motives. According to the kinds of *objects* most eagerly desired (as sensual enjoyment, goods and gold, praise, honour and renown, successful love, enjoyment of art and artistic productions, knowledge, &c.), is volition itself distinguished into different main tendencies (impulses), as, *e.g.*, inordinate longing after enjoyments of sense, covetousness and avarice, vanity, ambition, and lust of fame, ardour of love, artistic impulse, thirst for knowledge, and the spirit of inquiry, &c.

If, now, this content of volition were *solely* dependent on motives, psychology would be very simple and the mechanism definite for all individuals. Experience shows, however, that one and the same motive, quite apart from accidental differences of disposition, acts differently on different individuals. Public opinion fails to affect one, is all in all to another. To this man the laurel crown of the poet or a beautiful woman seems contemptible, whilst another sacrifices his life-happiness for their possession.

One offers his property to save his honour, another sells it for a bribe. Good doctrines and fine examples spur this man to emulation, and that man they leave unaffected. Rational reflection is here the determiner of all action, there it has no motive power, and the certain prospect of destruction is not able to restrain a third from his folly, &c. For the most part, consciousness can assign no reason why this motive (say, the expected announcement of a new scientific discovery) possesses an attraction for me, why that one (say, the announcement that at the entertainment to which I am invited a gaming-table will be opened) acts as a feeble inducement. The most that can appear in consciousness in the shape of an intermediary is the expectation of a greater or smaller pleasure; but what is enigmatical and unfathomable in my nature is, why I promise myself a great pleasure from hearing of a new discovery, but from the game of hazard a small or no pleasure at all, whilst the converse is the case with my neighbour.

How a particular individual will be affected by this or that motive no one can say prior to *experience;* but if we know how a man reacts on all possible motives, we know all his idiosyncrasies—become acquainted with his *character.* Character is then the mode of reaction on every special class of motives, or, what is the same thing, a condensed expression for the stimulating power of every particular class of desires. As there is no motive which belongs exclusively to one of these classes, always or commonly a greater number of impulses are affected; and the resultant of the desires hereby simultaneously excited is the active will, which unceasingly and immediately involves the act if this is not prevented by physical causes. If we now ask what sort of a process, then, this reaction of the will on motive and this opposition of the desires to the single resultant is, we must confess that we certainly perceive its existence through undoubted inferences from the facts falling within the domain of con-

sciousness, but that we can say nothing with regard to its particular nature, because our consciousness affords no knowledge thereof. In any case, we only know the first term, the motive, and the last term, the particular volition or result; but what that is which reacts on motive we can never *experience*, no more than we can take a look into the nature of this reaction, which altogether wears the character of reflex action or reflectorial instinct, as we have seen in the special case of Compassion and some other impulses in Sect. B. Chap. i. We have, doubtless, in part, a consciousness of the conflict of various desires, but only so far as we have, in former simpler cases, experienced the various desires apart as resultants, and apply our former experience to the present case. How incomplete these experiences are, however, and how imperfectly they are used for the understanding of a present psychical process, every one doubtless will have experienced in his own person.

How often do we fancy that we have weighed with the utmost care the strength of all operative desires, and disregarded none; and yet, when it comes to action, see, to our extreme surprise, that our subtle calculation does not fit the case, for, lo and behold, another and altogether different resultant appears as sovereign will. (The remarks on an unconscious will contained in the last chapter, pp. 252, 253, will recur to the reader. Compare also Chap. iii. C.) It appears, then, that there is, in fact, only *one* sure token of the proper, true, and final will, that is, the *deed* (no matter whether it succeeds, or is at the first attempt checked by external circumstances), but that every other supposition of consciousness with regard to what one properly wills remains uncertain, frequently deceptive, conjecture, which by no means depends on an immediate conscious cognition of the will, but on analogies of experience and their artificial combination. Often the firmest resolve, the strictest intention is dispersed by action like spray before the wind, when the true will emerges from the night of the Unconscious, whilst the intentional

will was only one-sided or partial desire, or was only imagined by consciousness, and did not exist at all. If, however, the man never acts, as, *e.g.*, in the case where he is impressed with the impossibility of execution, he never knows with absolute certainty what it is he really wills at the bottom of his heart. The so-called conscious *choice* of the will and its hesitancy is by no means a conscious hesitancy of the *will*, but a vacillation of the intellect in estimating the motives and realising present and future circumstances as affected by volition. But if there is no doubt about the knowledge, there is none about the will; *e.g.*, the vacillation of my choice, whether I should marry the clever and ugly or the stupid and pretty sister, is no vacillation of my will, which, meantime, does not emerge at all, but of my understanding with respect to the greatness of the advantages and disadvantages to be expected in either case. After the intellect has chosen, the motive is prepared for the will, namely, the idea of the sum total of satisfaction to be expected in either case.

We may then regard it as settled that the laboratory of volition is hidden in the Unconscious; that we can only get to see the finished result, and then only at the moment when it in fact comes to practical application; and that the glances which we succeed in throwing into the laboratory are only able to afford some uncertain information by the help of mirrors and optical apparatus, which, however, never reveal those unconscious depths of the soul where occur the reaction of the will on motives and its passage into definite volition.

If we must now confess that the excitations of the will remain for us eternally covered with the veil of the Unconscious, it is not to be wondered at that we are also not so easily able to review the causes which condition the stimulating power of different desires, or the dissimilar reaction of the will of different individuals on the same motives; we must be provisionally satisfied with seeing in

them the inmost nature of the *individual*, and therefore call their effect very appropriately *character*, *i.e.*, mark or token of the individual. This much, however, we have seen, that this inmost core of the individual soul whose efflux is the character, that most strictly practical ego of the human being, to which one reckons desert and guilt, and ascribes responsibility, that this peculiar essence which we ourselves are is still more remote from our consciousness and the sublimated ego of pure self-consciousness than anything else in us; that we can most easily get to know this deepest core of ourselves in the same way as we come to know that of other men, namely, by inferences from action. "By their fruits ye shall know them." This saying holds good also for self-knowledge; and how much do we deceive ourselves therein in fancying we have performed actions from quite other motives, especially better motives, than is actually the case, as we sometimes by chance learn to our shame! (For the continuation of the examination of Character, see the second half of Chap. xi., sect. C.)

It may not be superfluous to throw a side-glance at the essence of the ethical from this point of view. There has been much dispute on the point whether virtue can be taught, and theoretically one may still dispute about it as much as in Plato's time, but the practical psychologist has at no time doubted that, apart from *habit*, that second nature of the soul, which is a breaking-in, in the strict sense, because fear is the all-tamer, that without habit, I say, no teaching is able to *produce* morality, but only to *awaken* an existing moral consciousness through the presentation of suitable motives, which otherwise, perhaps, would not reach the pupil in this mode and strength. For it is evident that morality is not a predicate of thought, but of will. The emergence of the will into actuality as reaction on motive we have, however, recognised as a thoroughly unconscious act, which is partly, it is true, dependent on the nature of the motive, but in another part on the mode

of reaction and strength of the will. The motive is always merely *idea*, and can thus not have the predicate *moral;* consequently there remains for morality only that unconscious factor which must be looked upon as part of the character, and belongs to the inmost core of individuality. This foundation of the character may, as has been said, probably be modified by practice and habit (through intentional or accidential partiality of the motives appearing before consciousness), but never by teaching; for the finest knowledge of ethics is dead knowledge if it does not act as motive on the will, and *whether* it shall do so depends solely on the nature of the individual will itself, *i.e.*, on the character. Thus we see also historically that the people who most of all have morality on their lips often have least morality in their character; that people of eminent mental and scientific capacity and culture are not seldom morally worthless people; and that conversely the purest, most unsullied morality is to be found in people of slight mental cultivation, who have never occupied themselves with ethical problems, who often have never enjoyed a good education, and on whom the bad examples surrounding them never acted as incentives, but only as deterrents. Accordingly we further see that all religions, whatever their ethical creed may be, exert equally much or equally little influence on their confessors; nay, even that different stages of culture may possibly affect the coarseness or fineness of the form of the crimes and misdemeanours, but have no real influence on the morality of the character and the goodness and purity of the heart. On the other hand, the morality of one people as compared with that of another is, together with its national character, exclusively determined by its manners and the habits resulting from education; but the national manners again are, apart from the accidents of external position, environment, and inner development, dependent on the *national character*.

The conclusion is: The ethical element in man, *i.e.*, that

which conditions the character of opinions and actions, lies in the deepest night of the Unconscious. Consciousness may perhaps influence actions by emphatically presenting those motives which are adapted to react on the unconscious ethical, but whether and how this reaction follows, consciousness must calmly await, and first learn when the will proceeds to action, whether such will agrees with the conceptions which it entertains of moral and immoral.

It is hereby proved that the process of origination of that to which we assign the predicates moral and immoral lies in the Unconscious. We must now, in the second place, show that these predicates denote qualities which do not inhere in their subject *in and of themselves*, but which express only relations of the same to a quite definite standpoint of a higher consciousness, *i.e.*, that these predicates are only creations of consciousness, and never can belong to the Unconscious in itself. It immediately follows from this that it would be wrong to talk of a moral instinct, since it is true the actions of mankind as such flow from the unconscious or instinctive part of character, *e.g.*, through the instincts of compassion, gratitude, revenge, selfishness, sensuality, &c.; but this unconscious production can never have anything to do with the notions moral and immoral, because they are only engendered by consciousness, and a conscious instinct would be a *contradictio in adjecto*. The latter remark should protect me from being credited with maintaining an instinctive conscience; on the contrary, I hold conscience to be no simple fact, but a very complex one, the development of which from the very numerous factors of consciousness can never be definitely proved.

We also call lifeless natural phenomena, wind, air, portents, good and bad; further, we assign these predicates to animals and savages or young children, but they only pass into moral and immoral when we make beings responsible for their operation. But we then, again, hold beings

responsible for their actions when their consciousness is developed to such a degree that they can themselves understand the notions of moral and immoral, and make them responsible only for those actions which their consciousness was not prevented from measuring by its own standard. Thus it comes to pass that we call one and the same action moral or immoral in one being but not in another. For example, the strict sense of property which we find in many animals within their own species and narrow community (*e.g.*, among wild horses within the herd in respect to pastures and provender) we do not designate a moral, but only a good quality. Thus we cannot call it immoral when wild peoples offer even their wives to their guests; on the contrary, as a part of hospitality, this might be called moral, because their consciousness is at any rate developed up to this stage, but not to the comprehension of modesty in sexual intercourse. In a little child, we can, at the most, only term bad those malignant outbreaks which at a riper age would cause the same character to be condemned as immoral. Revenge for bloodshed would among ourselves be called immoral; among peoples of less culture it is a moral institution; among quite rude savages a mere act of passion which can be styled neither moral nor immoral. These examples may suffice to prove that moral and immoral are not qualities of the persons, or of their actions in themselves, but only *judgments* on them from a point of view taken by consciousness—*relations* between those beings and their actions on the one hand, and this standpoint of a higher stage of consciousness on the other; that thus Nature, so far as it is *unconscious, does not know* the distinction of moral and immoral. Yes, Nature is in itself not good or bad, but is ever nothing else but natural, *i.e.*, self-adequate. For the universal natural Will has nothing outside itself, because it includes everything and is itself everything; thus there can for it be nothing good or bad, but only for an individual will; for a relation between a will and an

external object is already necessarily presupposed in the notions good and bad.

In all this we by no means desire to disparage the value of the critical point of view adopted by consciousness; we only seek to avoid the error of supposing conceptions to be possible outside this specific point of view which only arise in relation to it. Certainly, if a consciousness be assumed external and prior to Nature (in a personal God), one may also, from the point of view of this consciousness, measure the world by the standard of these conceptions; but if—as we shall be constrained to do for reasons hereafter to be assigned—we reject a consciousness outside the union of mind and matter, the possibility also disappears of applying the standard of those conceptions to the whole unconscious world,—a point on which much unprofitable labour has been expended. But all this by no means lowers the value of those notions, for as, in spite of all partiality and limitation, consciousness for this world of individuation surpasses in importance the Unconscious, so, in the last resort, the moral stands higher than the natural; indeed, consciousness being ultimately also only an unconscious product of Nature, the moral also is not an antithesis of the natural, but only a higher stage of it, to which the natural has risen through its own energy and the instrumentality of consciousness.

I must here content myself with these brief indications, as an ethic worked out in this spirit would require a treatise to itself. I have also deemed it necessary to forego explicitly considering why and how judgments, with the predicates moral and immoral, must arise at a certain stage of consciousness, and what the content of those notions is. I thought I might the more readily do this as the general understanding of those conceptions met with in ordinary life appeared sufficient for the purpose of our present inquiries.

V.

THE UNCONSCIOUS IN THE ÆSTHETIC JUDGMENT AND IN ARTISTIC PRODUCTION.

WITH regard to the perception of the Beautiful there have been current from early times two extreme opinions, which, in the various attempts at compromise, have obtained very different recognition. One party, taking its rise from Plato, rely on this, that in Art the human mind *transcends* the beauty revealed in Nature, and hold this to be impossible unless there indwell in the soul an idea of the beautiful, a certain aspect of which is termed an Ideal, and which serves as a criterion of what is and is not beautiful in Nature, so that the æsthetic judgment is *à priori* and synthetic. The other party point out that in those creations of art which approximate most closely to the alleged ideals there are contained no elements which Nature herself does not offer to the view; that the idealising activity of the artist only consists in an elimination of the ugly, and in the collecting and combining of those elements of beauty which Nature exhibits apart; and that æsthetic science has in its progress more and more demonstrated the psycho-genesis of the æsthetic judgment from given psychological and physiological conditions, so that we may confidently expect a complete illumination of this province, and its purification from all *à priori* and supernatural conceptions.

I hold that each side is partly right, partly wrong. The empiricists are right when they affirm that every æsthetic judgment must be founded on psychological and physiological conditions; and accordingly it is, strictly

speaking, they alone who create scientific Æsthetics; whilst the idealists, by their hypothesis, cut away the foundations of such science, and in strictness have only advanced Æsthetics so far as they were at the same time more or less consciously empiricists, *i.e.*, substantially limited the science through empirical reception of the matter afforded by experience. But suppose the empiricists had obtained their end, and had completely analysed the æsthetic judgment, they would only thereby have proved its objective connection with other spheres—its world-citizenship, as it were, in the realm of spirit as a natural existence, but would have left untouched its subjective origin in the individual consciousness, or would have maintained something altogether false by their implicit assertion that the objective connection and the process of origination in the subjective *consciousness* are identical, which is contradicted by all unprejudiced introspection, and the testimony of the simplest as of the most cultivated taste. The idealists are far nearer the truth when they allege that this process is something lying *beyond* consciousness, *antecedent* to the conscious æsthetic judgment, consequently something *à priori* in respect of the latter. They are again in the wrong, however, when they annihilate all *process* in this *à priori* by their ready-made ideal, which is derived God knows whence, of whose existence consciousness knows nothing, whose objective connection with other psychical phenomena must remain for ever incomprehensible, and whose rigidity stamps it as insufficient when we consider the endless variety of its illustrations.

As soon as æsthetic Idealism wishes to do more than set up its principle in general, as soon as it enters more intimately into the wealth of the given manifold, it sees itself compelled to confess the untenability of the abstract ideal, which is a vague unity, and to admit that the Beautiful is only possible in the most concrete particularity, because individually intuited (*e.g.*, the human ideal as masculine and feminine; the former again as ideal of

the child, boy, youth, man, old man ; the ideal of the man again as ideal of a Hercules, Odysseus, Zeus, &c.); that thus the concrete ideal must be no longer a vague unity, but an indefinite plurality of the most definite types. To assert the eternal existence of these infinitely numerous concrete ideals would be to set infinitely numerous miracles in the place of the one miracle of the abstract ideal. If, to escape this difficulty, the vague ideal is posited as a fluid unity concreting into plurality according to circumstances, this process of concretion must still proceed in a mind ; but the inability of the absolutely indeterminate one ideal of beauty to concrete itself by its own power would have to be recognised, since no content could come of itself from that which is perfectly void of content. The creative process in the unconscious mind, as whose result the concrete ideal springs into consciousness, accordingly finds no help at all in the hypothetically abstract ideal; it also, however, no longer needs help, for it carries the formal principle of æsthetic formation in *itself*, and does not need to seek it first in the impossible absolute ideal of beauty. Only in this sense of a concrete ideal to be unconsciously created in the concrete case, recent æsthetic idealists even (like Schasler) understand the æsthetic ideal; and æsthetic Idealism so understood is ripe for reconciliation and fusion with æsthetic Empiricism, when it recognises that precisely *through* its correct understanding of the formal process as *à priori* and unconscious it is bound, *à posteriori*, to borrow *empirically* from consciousness the æsthetic *content* of this infinite wealth of concrete ideals to which analysis, reflection, and speculation may then be applied.

To take a very simple example. The abstract idealists would be obliged to judge tone, harmony, and timbre according to an ideal tone, ideal harmony, and ideal timbre, and according to their approximation to the latter to determine their tone-colour; whilst Helmholtz ("On the Sensations of Tone") proves that in all three cases

pleasure is to be conceived as negation of a displeasure, which arises through disturbances in the ear in the form of noise, dissonance, and disagreeable timbre similar to the flickering of light. This displeasure is not æsthetical, but just as much a weak physical pain as colic, toothache, or the pain produced by drawing a slate-pencil across a slate. Thus the æsthetic pleasure in the sensuous part of music has been proved to be objectively connected with physical pain, but the mode of origin of the æsthetic judgment—"this tone, this harmony, this timbre is beautiful"—is by no means this, that I am conscious while listening: "I feel now no pain through disturbances, and yet a gentle excitement of the function of the organ, *ergo* I feel pleasure." Nothing of all these or suchlike processes is found in consciousness, but in our consciousness the pleasure is *eo ipso* contemporaneous with the listening; it is then as if brought forth by enchantment, without the most strained attention being able to detect in the subjective event a clue to the mode of origin. This by no means precludes the objectively recognised connection being really completed in the *Unconscious* as process; this is, even according to my view, that which is alone probable, but the result is the only thing which enters into *consciousness*, and that, too, in the first place, *momentarily*, after the complete perception of the sensuous observation; so that here again, also, there is verified the instantaneousness of the process in the Unconscious, its compression into the timeless instant; and, secondly, not as æsthetic *judgment*, but as *feeling* of pleasure or displeasure.

The latter point must be looked at still more closely, and will best serve to clear up any remaining obscurity. As Locke showed, the words which denote sensuous qualities of bodies, as "sweet, red, soft," have a double meaning, which in practice are treated as identical by the common human understanding without harm. In the first place, they denote the state of the mind in perception and

sensation; and, secondly, that quality of external objects which is presumed as cause of this psychical state. Every sensation is in itself individual, but when the common portions are abstracted from different series of similar sensations, there are acquired the notions "sweet, red soft;" and when the objective causes of these abstract sensations are treated as qualitative elements of things already known from other effects, there arise the judgments: "Sugar is sweet, the rose is red, the fur is soft."

The same process is at the bottom of the æsthetic judgment. The mind finds in itself a number of sensations, which, although bound up with individual peculiarities, have yet so much resemblance that an identical portion can be set apart: this receives the name Beautiful. Now when the cause of this sensation is referred to external objects which are constructed of simultaneously occurring perceptions, this cause is stamped as the quality of these objects and likewise receives the name Beautiful; thus there arises the judgment: "The tree is beautiful." It should not surprise us that common sense almost always refers the notion only to the cause, rarely to the sensation, for the same occurs also in "sweet, red, soft," and has its good ground in practice, since his own sensations can only be of interest to the practical man so far as they instruct him with respect to the external world.

The æsthetic judgment is either impossible to him who is lacking in æsthetic feeling, who has no joy in beauty, or it is an unemotional abstraction from acquired general rules without subjective truth. It follows from this that the æsthetic *judgment* is not *à priori*, but rather *à posteriori* or empirical; for both the external object and the æsthetic pleasure are given through experience, and the external cause of pleasure can only lie in the object, as the cause of the sweet sensation of taste only in the sugar. Æsthetic *pleasure* itself, however, which is found in consciousness as an equally inexplicable fact, as the sensation of tone, taste, colour, &c., and like this occurs in any inner ex-

perience as something ready made and given, may owe its origin only to a process in the Unconscious; this might then be called just as well as any other sensation something *à priori*, were not this expression merely in use for conceptions and judgments.

The ability to feel æsthetically (like the ability to feel sweet, sour, bitter, rough, &c.), called Taste, can certainly, like the taste of the tongue and of the palate, be formed and exercised to react on fine differences; it can also by powerful custom, that second nature, be alienated from its first nature, instinct, and spoiled; but in every case the sensation presents itself as a given fact, subject to no caprice. But now æsthetic sensation is distinguished from merely sensuous feelings in this, that it stands on the shoulders of the latter; that it uses them perhaps as material, also as concomitant presentations through which its special quality is in every case determined; but that *as* feeling it stands above them and is built upon them. If, therefore, the unconscious genesis of the sensuous qualities is an immediate reaction of the soul on the nerve irritant, the unconscious genesis of æsthetic sensation is rather a reaction of the soul on ready-made sensuous feelings,—a reaction of the second order, as it were. This is the reason why the origin of sensuous feeling will probably always remain veiled in impenetrable obscurity, whilst we have already partially, in the discursive form of conscious representation, reconstructed and comprehended, *i.e.*, conceptually resolved, the process of origin of æsthetic sensation.

We have as little to trouble ourselves here about the essence of the Beautiful as about the essence of the Moral in the last chapter. As it there sufficed us that the predicate *moral* could only be applied to actions from the point of view of consciousness, but that the actions themselves, to which this predicate is given or refused, are in the last resort incalculable reactions of the Unconscious, so the only point to be considered here is the cognition that the æsthetic judgment is an empirically

established judgment, but has its foundation in æsthetic feeling, whose origination falls entirely within the Unconscious.

If we now pass from the *passive reception* of the beautiful to its *active production*, a short consideration of the creative fancy, and consequently of fancy or imagination, seems in general indispensable. (Comp. also above A. Chap. vii. 1, *b*, pp. 174, 175.) The sensuous faculty of presentation, imagination, or fancy, in its widest sense, has very different degrees of vividness in different persons. According to Fechner's statements, which are confirmed by my own numerous trials of others, women have this power in a higher degree than men, and of the latter, those least of all who are accustomed to think abstractly and to neglect the external world. In the lowest degree, colours cannot at all be imagined, and forms only very indistinctly, without fixity, with shifting outlines, generally only perceptible for brief moments; with higher degrees of imagination, plain, not too large images can be distinctly represented without effort, stationary, in lively colours; and by turning the head, objectively fixed or concurrently moving at will. In the highest degree, the vividness and distinctness does not at all yield to that of the sense-impression; the images can be arranged at pleasure both in the black field of vision of the shut eye, and in the field of vision filled by external sense-impressions (witness that painter who let his model sit for only a quarter of an hour, and then by an effort of will called up the image of the same sitting on the chair, and afterwards portrayed it, so that *as often as he raised his eyes* he saw the person quite distinctly seated on the chair). Further, whole compositions, trains of many figures, or elaborate orchestral compositions, can be carried about merely in idea for months without loss of definition, as we know of Mozart that he never recorded his compositions on paper until necessity drove him to it, but then often wrote down the several orchestral parts without the score

(*e.g.*, the overture to "Don Juan"), and this work became so mechanical to him, that he is said to have *conceived other* compositions at the same time. I considered these illustrations as not without utility for giving the reader, who may be lacking in this intuitive power, some idea of the practicability of framing conceptions at once vast and indivisible. Experience proves that there never was a true genius who did not possess this faculty of sensuous intuition in a large degree, at least in his own department. Moreover, there is no question that if, in our sober, rational age, such examples are still possible, that in earlier ages, when sensuous intuition was much more practised and cultivated, and was less kept under by abstract thinking, when man surrendered himself still more unreservedly to the good and evil whisperings of his genius or dæmon, it is conceivable that, as among the saints, martyrs, prophets, and mystics, so also among inspired artists, a blending of voluntary sense-intuition and involuntary hallucination may have taken place, which had nothing shocking for these children of a more fortunate Nature, not yet at variance with their august mother, but, on the contrary, was so much esteemed, as a condition of every production of the Muses, that the enthusiastic Plato has bequeathed us the declaration (Phædrus): "What an excellent man produces in *divine frenzy, which is better than sober reflection*, namely, the divine, in that the soul recognises as in a brightly shining after-image what it looked upon in the hour of rapture, walking in the footsteps of Deity, and which beholding, it is necessarily filled with rapture and love." "Frenzy is not absolutely an evil, but through it the greatest goods came to Hellas." And even at the time of Cicero poetic inspiration was called *furor poeticus*. In modern times, Shaftesbury in particular has laid stress upon the fundamental importance of *enthusiasm* for the origination of everything true, great, and beautiful.

If we now, however, look at the forms of fancy them-

selves, we find, on decomposing them into their elements, even when we take up the wildest productions of Oriental extravagance, nothing which could not have been obtained by means of sensuous perception aided by a retentive memory. We can discover no new simple colour, no simple smell, taste, tone. Even in the realm of space, which allows the greatest scope for novel constructions, we find in arabesques only the familiar elements of the straight line, the circle, the ellipse, and other well-known curves; nay, even in the animals of fable we rarely find parts derived from the inorganic and vegetable world, and conversely. Invention is limited to disjoining familiar ideas and rearranging the severed parts. If, now, anybody possesses a lively imagination, at the same time a fine sense for the beautiful, and a copious store of remembered ideas ever at command, wherein the beautiful elements are particularly richly represented, it will not be difficult for him, by leaning on Nature, that is, on given sense-perceptions, by eliminating ugly and inserting beautiful elements, which yet do not offend against truth and unity, to create in an artistic fashion. *E.g.*, when any one paints a portrait, essential truth is lost by simply rendering the chance aspect of the person. This would be a mechanical, not an artistic performance. But when the artist places the person in such a light, position, direction, and attitude that he shows himself in the most favourable manner possible; when, of the various moods and expressions during the sitting, the artist retains that which makes the finest impression; and accordingly represses or lets pass all unfavourable and non-beautiful traits and singularities, but, on the other hand, brings into the foreground and places in a favourable light all advantageous traits and details, perhaps even adding new ones so far as the truth of the idea, *i.e.*, the likeness, allows, then he has produced a work of art, for he has *idealised.*

Thus works ordinary talent; it produces artistically by means of *rational selection* and combination, guided by its

æsthetic judgment. At this point stands the ordinary dilettante and the majority of professional artists. They one and all cannot comprehend that these means, supported by technical routine, may perhaps accomplish something excellent, but can never attain to anything great, can never pass out of the well-worn groove of imitation nor produce an *original work;* for, if they admitted that, they must perforce abjure their calling and declare their life to be a failure. Here everything is still done with conscious choice; there is wanting the divine frenzy, the vivifying breath of the Unconscious, which appears to consciousness as higher inexplicable suggestion, which it is forced to apprehend as fact without ever being able to unravel its law. Conscious combination may, in course of time, be acquired by effort of the conscious will, by industry, endurance, and practice. The creation of genius is an unwilled, passive conception; it does not come with the most earnest seeking, but quite unexpectedly, as if fallen from heaven, on journeys, in the theatre, in conversation, everywhere where it is least expected, and always suddenly and instantaneously. Conscious combination works out laboriously the smallest details, and gradually constructs a whole with painful hesitation and head-splitting, with frequent rejecting and resuming of the single parts. The conception of genius receives the whole from one mould, as gift of the gods, unearned by toil; and it is just the details which are wanting to it—must be wanting, because in the larger compositions (grouped images, poetic works) the human mind is too narrow to obtain more than the most general total impression at a single glance. Combination procures the unity of the whole by laborious adaptation and experimentation in detail, and therefore, in spite of all its labour, never accomplishes its purpose, but always allows, in its bungling work, the conglomerate of the details to be visible. Genius, in virtue of the conception from the Unconscious, has, in the necessary appropriateness and

mutual relations of the several parts, a unity so perfect that it can only be compared to the unity of natural organisms, which likewise springs out of the Unconscious.

These phenomena are confirmed by all true geniuses who have instituted and communicated self-observations thereupon,[1] and every one who has ever had a truly original thought in any direction can find it proved in his own person. I will here only quote an observation of the no less artistic than philosophical Schelling (Transcend. Idealism., pp. 459, 460): ". . . As the artist is urged to production involuntarily, and even with inner aversion (accordingly among the ancients the expressions *pati deum*, &c., and hence in general the idea of inspiration through extraneous afflation), so the objective is also added to his production as it were without his action, *i.e.*, itself merely objectively." [P. 454 he says: "Objective is only what

[1] One of the purest geniuses, *i.e.*, least possibly influenced by reflection, and at the same time a thoroughly honest, childlike nature, was Mozart, who expresses himself in a letter (see Jahn's "Mozart," vol. iii. pp. 423–425) in the following remarkable manner with respect to his artistic productions: "And now I come to the most difficult point of all in your letter, and one which I should prefer to pass by altogether, because my pen is not at my service for anything of the sort. But yet I will make an attempt, even if you should find it somewhat ridiculous. What, you ask, is my method in writing and elaborating my large and lumbering things? I can in fact say nothing more about it than this: I do not myself know and can never find out. When I am in particularly good condition, perhaps riding in a carriage, or in a walk after a good meal, and in a sleepless night, then the thoughts come to me in a rush, and best of all. *Whence and how—that I do not know and cannot learn.* Those which please me I retain in my head, and hum them perhaps also to myself—at least so others have told me. If I stick to it, there soon come one after another useful crumbs for the pie, according to counterpoint, harmony of the different instruments, &c., &c. That now inflames my soul, namely, if I am not disturbed. Then it goes on growing, and I keep on expanding it and making it more distinct, and the thing, however long it be, becomes indeed almost finished in my head, so that I afterwards survey it at a glance, like a goodly picture or handsome man, and in my imagination do not hear it at all in succession, as it afterwards must be heard, but as a simultaneous whole. That is indeed a feast! *All the finding and making only goes on in me as in a very vivid dream.* But the rehearsal—all together, that is best of all. What now has thus come into being in this way, that I do not easily forget again, and it is perhaps the best gift which the Lord God has given me. When now I afterwards come to write it down, I take out of the sack of my brain what has been previously garnered in the aforesaid manner. Accordingly it gets pretty quickly on to

arises without consciousness; the properly objective in the intuition must therefore also not be procurable with consciousness."] "Just as the man of destiny does not execute what he wills or intends, but what he is obliged to execute through an incomprehensible fate under whose influence he stands, so the artist, however full of design he is, yet, in respect of that which is the properly objective in his production, seems to stand under the influence of a power which separates him from all other men, and compels him to declare or represent things which he himself does not completely see through, and whose import is infinite."

In order, however, to avoid misunderstanding, I must still add the following. In the first place, it is by no means indifferent what soil the genius has prepared in his mind in order that the germs which fall into it from the Unconscious may shoot up in luxuriant organic forms, for when they fall on rock or sand they languish. That is to say, the genius must be practised and educated in his own department, have stored up in his memory a rich supply of striking images, and indeed with a selection

paper; for, as has been said, it is properly speaking already finished; and will, moreover, also be seldom very different from what it was previously in the head. Accordingly I may be disturbed in writing, and even all sorts of things may go on around me, still I go on writing; even also chatting at the same time, namely, of hens and geese, or of Dolly and Joan, &c. But now, with respect to my works, how everything altogether assumes just *that* form or manner that they are Mozartian, and not in the style of anybody else, it just amounts to this, that my nose is just so long and crooked that it has become Mozartian, and not as in other people. For I am unable to characterise it more particularly. It is, however, very natural that people who really have an exterior should also look differently to others both outwardly and inwardly. At any rate, I know that I have as little given myself the one as the other. With this let me off now and for ever, my very good friend; and do not at all think that I break off from any other reason than that I do not know how to go on. You, a scholar, have no idea how bitter this has already been to me." Comp. for confirmation of this the opinions of Schiller, as expressed in the remarkable poem "Happiness," suggested in all probability by the patent contrast between the ease of genius as illustrated in the creations of Goethe, and his own reflective work. Comp. further my essay on Otto Ludwig: "From a Poet's Workshop," in the "Austrian Weekly Journal for Science and Art," 1872, No. 41.

of the beautiful, which must be effected with nice discrimination. For this material is the body in which the Idea yet in the Unconscious and formless will take shape. If the artist has corrupted his æsthetic judgment, and as a consequence has received with predilection unlovely material, this bad ground too will introduce improper elements into the seed-corn which derives it nourishment from it, and thus the plant will not thrive.

In the second place, in what has been said it is not asserted that *every* work of art arises from a *single* conception; thus episodes show in the simplest form the union of different conceptions. For the most part, however, it is a single conception which furnishes the fundamental idea; where that is not so, the unity of the work of art always suffers. The unity of the original total conception, however, by no means excludes—in greater works it even requires—support by partial conceptions, conceptions of the second order, as it were. For if rational work alone is to fill up the entire interval between the first conception and the completed work, there is a danger in the absence of all specialities, unavoidable in the first conception of larger works, of the want of conception in the different parts of the work becoming perceptible, just as in lesser works of purely rational construction, or of the unity of the whole idea being injuriously affected by greater changes in the parts. For all that, there remains a great field for the exercise of the understanding; and if the genius is wanting in requisite energy, endurance, industry, and rational judgment, the gifted conception will bear no fruits for the artist and humanity; for the work remains either uncommenced or unfinished, or worked out only in outline and imperfectly (slovenly executed). Undoubtedly the understanding should always at the same time remain conscious of its position of service, as it were. It must not be hypercritical, and desire to treat professorially the inspirations of the Unconscious, else it spoils the work, introducing by partial improvements

a deterioration in many other respects, and destroying or disturbing the organic unity and naturalness of the work of art. How far, however, the work of reason may be admitted without disturbing the conceptions of the Unconscious, this again not itself, but only the æsthetic taste or tact of the artist, *i.e.*, his unconsciously founded feeling of beauty, has power to determine, and on that account during the *entire* duration of the exercise of the reasoning faculty, the Unconscious must keep guard over the conscious understanding as overseer of the marches. This is the reason why Schelling, and after him Carrière (comp. above, p. 42), were able to explain *all* artistic activity as a *constant* interfusion of unconscious and conscious activity, in which each side is equally indispensable to the other for bringing the result to pass.

Thirdly, the observation that the unconscious will has no influence on the carrying out of the conception must not be misunderstood. Conscious will in general is mainly just its indispensable condition; for only when the whole soul of a man lives and moves in his art do all the threads of his interest converge therein, and there is no power which would be able permanently to turn the will from this its highest endeavour; only then is the influence of the conscious mind on the Unconscious powerful enough to attain truly great, noble, and pure inspirations. On the other hand, conscious will has no influence at the moment of conception; nay, a strained conscious seeking after it, a one-sided concentration of the attention in this direction, immediately hinders the reception of the Idea from the Unconscious, because the causal nexus of the two terms in respect of such extraordinary demands of the Unconscious is so subtile, that every preoccupation of the consciousness in this direction must act disturbingly, every actual one-sided tension of the parts of the brain concerned makes the ground to be traversed uneven. Hence the occurrence of the conception, when quite other parts of the brain are occupied

with quite other thoughts, as soon as through a still looser association of ideas the impulse is given to the causality of the Unconscious; but such an impulse there must be, if it is also for the most part immediately forgotten again, for the universal laws of mind can even here not be transgressed.

In the fourth and last place, it is to be noted that the fructifying conception is never wanting, even in the rational works of mere talent, but is merely limited to such small amounts that they elude ordinary introspection. But when once what is characteristic in this process has been comprehended in the case of rare genius,—and we consider that there are innumerable degrees from it to talent, from talent to the talentless worrying the bare understanding by the help of learnt rules,—an abundance of examples will soon present themselves which more or less exhibit the character of inspiration from the Unconscious; as, for instance, when one is engaged in any work, this or that improvement suddenly occurs at quite another time, and the like. To any one doubting this, I shall, in conclusion, prove that every combination of sensuous presentations, when it is not left purely to chance, but is to lead to a definite end, receives the help of the Unconscious.

The laws of the association of ideas or sequence of thought contain three essential moments: (1.) the evoking idea; (2.) the idea called up; and (3.) the special interest leading to the calling up of the idea. As for the interrelations of the first two apart from the third, and the laws of their connection, they must be referred essentially to the mechanical causality of the molecular vibrations of the brain, to the greater or less affinity of the cerebral vibrations corresponding with the exciting idea to the various latent dispositions in the brain (called by the improper expression, "slumbering *ideas* of memory"). (Comp. pp. 33, 34.) Such a limitation of our consideration to the exciting and the excited idea would, I conceive, be justified

only if there are conditions in human life in which man is free not only from every conscious purpose, but also from the sway or co-operation of every unconscious interest, every passing mood. This is, however, a condition hardly ever occurring, for even if one in appearance completely abandons his train of thought to accident, or if one abandons oneself entirely to the involuntary dreams of fancy, yet always other leading interests, dominant feelings and moods prevail at one time rather than at another, and these will always exert an influence on the association of ideas. Of still greater influence, however, must of course be some special motive determining the train of thought to a particular goal, and this point (cited above as No. 3) it is also with which we have here particularly to deal.

For example, if I look at a right-angled triangle, all manner of ideas may become connected with it without any particular reason; but if I am asked for the proof of some proposition which I should be ashamed not to know, I have a particular notion for linking on to the presentation of the triangle those ideas which are serviceable for the demonstration. It is this interest in the end then which conditions the manner of the association of ideas in the different cases. For if, in the case of the triangle, otherwise any other possible idea might occur to me, only not exactly that one which I want, and this interest in the discovery of the proof brings it about that suitable ideas arise which otherwise most probably would not have been called up, still a motive must be the cause of this. But now, who is the intelligent being who seeks out, among innumerable possible ones, the idea corresponding to an end on this stimulus of some motive? It is certainly not consciousness; for in semi-conscious dreams always only such ideas as correspond to the main interest of the moment, but unintended, occur; in the intentional search of consciousness in the drawers of memory, on the other hand, one is often just left by it in the lurch. Aids

may doubtless be used if what is wanted will not occur to me, but it is not got by importunity; and often, when one is thrown into perplexity by such failures, the idea in question comes hours, nay, days afterwards, suddenly rained in upon consciousness, when one least of all was thinking of it. One sees, then, that it is not consciousness that selects, since it is completely blind, and receives each piece which is fetched from the treasury of memory as a gift.

If consciousness were the selector, it would indeed be able to see by its own light what was *eligible*, which, as is well known, it is *not*, since only that which is *already* selected emerges from the night of the Unconscious. If, then, consciousness *were* the selector, it would grope about in absolute darkness, could accordingly not possibly *choose appropriately*, but only *take at random* what first came to hand. That unknown one, however, does choose *judiciously in fact*, namely, in accordance with the special purpose. According to psychology, which only knows of conscious psychical activity, there is here a manifest contradiction. For experience testifies that an appropriate selection of ideas takes place before their emergence, and denies that this selection is undertaken by consciousness. For us, who have already become acquainted with the purposive activity of the Unconscious on many sides, there is here only a fresh support of our view. It is just a reaction of the Unconscious upon the motive of the conscious will, which, in the form of its manifestation and in its occasional non-appearance on severe partial tension of the brain, perfectly agrees with the creative power of the artist.

The reflection just made holds good of the association of ideas *in abstract thinking as well as in sensuous imagining and artistic combination*. If a result is to be arrived at, the right idea must readily offer itself at the right time from the storehouse of memory; and that it is just the *right* idea which appears, for that the Unconscious alone

can make provision. All aids and artifices of the understanding can only *facilitate* the office of the Unconscious, but never *take it away*.

A suitable and yet simple example is wit, which is a mean between artistic and scientific production, since it pursues artistic aims with, for the most part, abstract material. Every witticism is, according to the common expression, a *flash*. The understanding may perhaps make use of aids to facilitate the flash; practice, especially in the case of puns, can impress the material more vividly on the memory, and altogether strengthen the verbal memory; talent may endow particular persons with an ever-sparkling wit,—in spite of all that, every single witticism remains a gift from above; and even those who think they are privileged in this respect, and have wit completely in their power, must have the experience that just when they most wish to compel it, their talent denies them its services, and that nothing but worn-out absurdities or witticisms learnt by rote will out of their brain. These folk know also quite well that a bottle of wine is a far readier means of setting their faculty a-going than any intentional effort.

If we have gathered from the foregoing that all human artistic production depends on an intrusion of the Unconscious, it will no longer excite surprise to find the laws of beauty contained as much as possible in those organisms of Nature which we have recognised as the most immediate apparition of the Unconscious. This point could not well have been mentioned before; it is, however, one important reason the more for the regular coming into being of organisms according to pre-existing IDEAS. Let one only look at a peacock's feather. Every barb of the feather receives its nutriment from the shaft; the nutriment is the same for all barbs; the colouring matters are for the most part not yet present in the shaft, but are first separated from the common nutritive fluid in the barbs themselves. Every barb receives

different colouring matters at different distances from the shaft, which are sharply separated from one another. The distances of these borders of colour from the shaft are different in the case of every barb. How are they determined? By the aim of giving closed figures, peacock's eyes, in the juxtaposed layers of the barbs. And how can this end be determined? Only by the beauty of the marking and brilliancy of colour.

How insufficient, from the æsthetic point of view, does the Darwinian theory appear! It shows that, on the supposition that the capability of producing coloured markings in the plumage is transmissible by inheritance, the æsthetic taste of the animals in sexual selection must enhance the beauty of the plumage in the course of generations through predominant propagation of beautifully-marked individuals. Undoubtedly! Thus a more may be developed from the less, but whence comes the less? If the coloured marking is not already present in the plumage, how is a sexual selection possible in the coloured marking? Accordingly, that which is to be explained must be already there, if in less degree. The Darwinian theory rests on the assumption that such ability—in this case that of producing coloured marks—is transmissible by inheritance. The transmission of a capacity to successors presupposes, however, its presence in the progenitors. And supposing the conception of inheritance were tolerably clear, which it by no means is (least of all when the separate inheritance of different qualities in the different sexes of the same kind is taken into account), it by no means explains the *capacity* itself in the descendant, but only how this individual has obtained the *possession* of this capacity. The capacity itself remains, even with Darwin, the *qualitas occulta;* he makes no attempt at all to penetrate into its *essence;* he only proves, indeed, that inheritance combined with sexual selection is able, in part *intensively*, to enhance such an already existing capacity

in single instances, partly to procure their further distribution *extensively*. It contributes nothing at all to the explanation of its *essence* and its *first origination*. It can, for example, never show how the individual bird begins so to distribute the deposits of colour on its feathers that they, apparently irregular in the several feathers and barbs, produce in their juxtaposition regular and beautiful markings. But, lastly, if sexual selection be rightly given as a reason for the intensive and extensive enhancement of such capacity, the next question is this:—How does the individual attain to a sexual selection in respect of beauty? If we can only answer this question, especially in the case of marine animals of a low grade, who are surely to be credited with but little conscious æsthetics, by supposing an instinct the unconscious aim of which is concerned with beautifying the species, Darwin is manifestly involved in a circle. We shall, however, perceive in this instinct a means employed by Nature for attaining its end with less trouble than if, foregoing the assistance of the transmission of slight improvements of the bodily constitution, all at once it willed the production of the greatest possible beauty in all individuals singly. In other words, we admire a less troublesome indirect attainment of the end, instead of one more difficult and indirect, as before in the mechanisms of the individual organism; and to have discovered this mechanism in its universality is the indisputable merit of Darwin; only one cannot, as the Materialist, believe that therewith the last word has been spoken.

In a similar way one may see in the improvement of the florescence how the impulse to beauty lies in the mysterious life and motion *of the plant itself*, which in the wild state is only too much *oppressed and stifled in the struggle for existence*. As the plants are in a measure freed from this struggle the endeavour after beauty breaks through, and from the most insignificant blossoms of wild

plants there arise the most splendid flowers under our very eyes. And be it observed, the enticement of insects required to effect fertilisation by means of a more vivid colouring cannot possibly account for this embellishment, since our most beautiful garden flowers have full, that is, *unfruitful* blossoms, and can only be increased in a non-sexual way. Here we have the proof that the impulse to its beautiful unfolding lies *in the plant itself*, and, in the case of wild-flowers, is only *supported*, but by no means produced, by the preference of the insects which visit them. Darwin has never made an attempt to explain how those varieties or departures from the normal type are possible which excel the latter in beauty, and which man *has only to preserve from perishing in the struggle for existence*, that this superiority may be maintained.

But the same holds good of all beauty in the vegetable and animal kingdom, even that of the general form. I declare it to be a first principle that every living thing is as beautiful as it can be, regard being had to its mode of life and propagation. As we saw before that the absolute *fitness* of every arrangement is limited: on the one side, by other aims, whose realisation it would oppose, on the other side, through the resistance of the rigid material, to whose laws the organising principle must bend and adapt itself, precisely in the same manner is the *beauty* of every part limited in all directions by its conformity to the end in view, where it is of practical importance for the being, and secondly, through the resistance of the stubborn material, whose laws must be respected. Thus, *e.g.*, the tendency to the unfolding of the greatest brilliancy of colour possible among the weaker animals (small birds, beetles, butterflies, moths, &c.) is limited by the necessity of their concealing themselves from their persecutors by assimilation to the colour of their surroundings, unless they are secured from their eventual foes by a disagreeable smell or taste (*e.g.*, Heliconidæ), or by an impenetrable hard shell (hard beetles). Wherever, in a species.

the higher claims of existence and its power of competing in the struggle allow of the unfolding of a certain beauty in form and colour, there it forces its way unchecked, even when it appears perfectly purposeless and *worthless* for the competition of the species in the struggle for existence. (Think of the splendour of colour of lower marine animals, or the beauty of certain caterpillars, which are not propagated as such, in which accordingly no sexual selection can take place, so far as their beauty is concerned, in the pupa state.) Among animals adapted for rapid flight the need of hiding themselves is a matter of small concern, but immediately becomes important when flight is out of the question, *e.g.*, among brooding birds. Here we see, in all birds which brood in the open nest, that that sex to which the office of brooding exclusively belongs wears a duller dress than the other. Of smaller birds, both sexes can only wear a robe of brighter hue among those species which brood in a closed nest concealing the brooding bird, whilst a distribution of the unconcealed office of brooding between the sexes excludes both from a brilliant plumage. In like manner, almost all species of butterflies not absolutely protected by an intolerable smell or taste are more or less polymorphous; *i.e.*, whilst the males are beautifully coloured and marked, the females, which must live after copulation till the maturity and deposition of the eggs, are more dingy in hue, or they copy in their external appearance tolerably remote species enjoying a special protection. Where a gorgeous plumage would be an injurious endowment during the whole of life, Nature frequently still seeks to pay its tribute to beauty by a glittering wedding garment, which is exchanged after a short time for a duller garb, as if it wished to glorify with a gleam of poetry the life of the feathered airy dweller in its happy spring of love by a fleeting ray of beauty.

Interesting as the contemplation of organic nature is from the æsthetic point of view, we cannot enter upon

it here for want of space, and must content ourselves with the foregoing suggestions, the development of which we leave to the reader. If we, however, assume our assertions to be admitted, the difference between the artistic production of man and of Nature lies, in the last resort, not in the essence and origin of the conception of the Idea, but only in the mode of its realisation. In Nature's beauty the Idea is nowhere presented to a consciousness before the execution, but the individual, who is at the same time marble and sculptor, realises the Idea perfectly unconsciously; in human artistic production, on the other hand, the instigation of consciousness intervenes. The Idea is not directly realised as natural existence, but as cerebral vibrations, which confront the consciousness of the artist as construction of fancy, whose conversion into external reality depends on the conscious will of the artist.

If, in conclusion, we sum up the result of this chapter, we obtain the following:—The discovery of the beautiful and the creation of the beautiful by man proceed from unconscious processes, whose results, the *feeling* of the beautiful and the *discovery* of the beautiful (conception), are presented in consciousness. These moments form the starting-point of farther conscious work, which, however, at every instant needs more or less the support of the Unconscious. The underlying unconscious process is entirely withdrawn from introspection, but it undoubtedly unites in every single case the same terms, which an absolutely correct Æsthetics would give in discursive succession as the foundation of the beautiful. That such a transformation and resolution into concepts and discursive thinking is at all possible, affords proof that we have not to do in the unconscious process with anything essentially foreign, but that in this and the analytic processes of æsthetic science only the form is distinguished as intuitive and discursive thinking in general, but that thought in itself, or the

logical element, and the moments, from whose intuitive logical union beauty results, are common to both and identical. This holds good, without doubt, just as much for the elementary judgments of so-called formal beauty, as for the material beauty of the highest ideas presented in adequate sensible manifestation. (Leibniz called the discovery of musical proportions an unconscious arithmetic, and the beauty of geometrical figures is in direct ratio to the wealth of mathematical ideas and logical-analytical relations, which in the æsthetic intuition of the same determines the judgment as its unconscious and implicit content.) If the notion of the beautiful was not susceptible of *logical analysis*, if the beautiful were not merely a *particular manifestation of the logical*, we should certainly be obliged to recognise in the creative Unconscious, besides the logical essence, which we have hitherto found to be the only active element, an additional somewhat, heterogeneous, out of all relation with it. But the history of Æsthetics indicates too unmistakably the goal of this science, the derivation of all and every beauty from logical moments (in application to real data of course), to allow of our being diverted by the imperfect character of current explanations from believing in this final aim.

VI.

THE UNCONSCIOUS IN THE ORIGIN OF LANGUAGE.

"As without language not only no philosophical, but no human consciousness at all is conceivable, the foundations of language could not have been consciously laid; and yet the deeper we penetrate into it, the more clearly does it appear that its invention far surpasses in profundity those of the highest conscious product. It is with language as with human beings; we think we behold them come blindly into existence, and at the same time cannot doubt their unfathomable significance even in the smallest particular." In these words of Schelling (Works, div. ii. vol. i. p. 52) the subject of the present chapter has been foreshadowed.

Let us consider first the philosophical value of the grammatical forms and the formation of concepts. In every more developed language we find the distinction of subject and predicate, of subject and object, of substantive, verb, and adjective, and the same conditions for the construction of sentences. In the less developed languages these fundamental forms are at least distinguished by their position in the sentence. Whoever is acquainted with the history of philosophy will know how much it owes to these grammatical forms alone. The notion of the judgment is unquestionably abstracted from the grammatical sentence by the omission of the verbal form. The categories of substance and accident are derived in the same way from subject and predicate; the discovery of a corresponding natural antithesis of substantive and verb is still

an unsolved, perhaps very fruitless philosophical problem; here conscious speculation is still far behind the unconscious creation of the genius of humanity. That the philosophical notions of subject and object, which in strictness were wanting to the consciousness of antiquity but to-day openly govern speculation, have been developed from grammatical notions in which they lay involved unconsciously pre-formed, is certainly not improbable, since their designation already implies it. A corresponding gain to philosophy from the other parts of the sentence, *e.g.*, the so-called more remote object or the third person, is, I am convinced, yet to be expected. Through such bringing into consciousness of the metaphysical thought, to which the verbal form serves as dress, it is true no *new* relations are *created;* but such as hitherto have only existed in consciousness in a roundabout way, and as a united whole only vaguely or instinctively, are reduced to conscious unity, and can now for the first time serve as a sure foundation of further speculation; just as in mathematics the circular and elliptic functions and the functions of Abel all at once reduce to system certain long-known series, and thereby for the first time render possible their general use. Lazarus denotes this by the expression, "Condensation of thought."

When in the history of the world the human mind is for the first time astonished at itself and begins to philosophise, it finds a language ready made for it, fitted out with all the wealth of forms and notions; and "a great part—perhaps the greatest part—of the office of the reason," as Kant says, "consists in dismembering the notions which it already finds in itself." It finds the cases of declension in the substantive, adjective, pronoun, the voices, tenses, and moods of the verb, and the immeasurable wealth of ready-made notions of object and relation. All the categories, which for the most part represent the most important relations, the fundamental notions of all thought, as being, becoming, thinking, feeling, desiring, motion, force, activity, &c., lie before it as ready-made

material, and it requires thousands of years only to find its whereabouts in this wealth of unconscious speculation. Even at the present day the philosophising mind commits the error of the beginner of taking too wide a circuit, and so neglecting that which lies nearest to it, and is perhaps also the most difficult. Still to this day there is no *philosophy of language*, for what really goes by that name is altogether fragmentary, and what is usually offered as such are pretentious appeals to human instinct, which afford no explanation at all (just as in Æsthetics). But if the first Greek philosophers merely kept to the external world, yet philosophy, the farther it has progressed, has ever more clearly perceived that the understanding of one's own thinking is the first task, and that this is admirably furthered by raising the spiritual treasures which are buried in the language of the discoverer, and that the hoary tradition of language, the garment of thought, should not be desecrated by flaunting rags; for language is the Word of God, the Holy Scriptures of philosophy; it is the revelation of the genius of humanity for all time. How much a Plato, Aristotle, Kant, Schelling, and Hegel owe to language the attentive student will not fail to see. Often the source whence they have derived the first incentive to certain results seems to have been tolerably unconscious even to themselves (*e.g.*, in Schelling, the subject of being as not-being or potentiality of being, and the object of being as merely being).

The next inquiry has reference to the question whether language improves with the progress of civilisation. Up to a certain point this is undoubtedly the case; for the language of primitive man must undoubtedly have been hardly distinguishable from the vocal and gesture speech of the brutes, and we know that every language which is now a language of inflexions has been brought quite gradually to perfection through the stages of monosyllabic (*e.g.*, Chinese), agglutinate (*e.g.*, Turkish), and incorporating speech (*e.g.*,

language of the Indians). But if one understands the above question in this sense, whether after the attainment of that state of culture which must be looked upon from the first as a condition of an inflexional language, language continues to improve *with yet higher culture*, not only must this question be answered in the negative, but its contrary must be affirmed. Certainly with progressive culture new objects make their appearance, consequently new conceptions and relations, therefore also new words (*e.g.*, all that concerns railways, telegraphs, and joint-stock companies). There results from this a *material* enrichment of language. This, however, does not contain anything philosophical. Philosophical conceptions (the categories, &c.) remain the same, they become neither more nor less, with few exceptions, as consciousness and the like, conceptions which the ancients of the classical period possessed only vaguely, but not explicitly and consciously. In the same way the series of abstractions, which reduce the endless multiplicity of sensuous phenomena for practical use into abstractions of different orders, experience no considerable changes. For if the special sciences, *e.g.*, zoology and botany, sometimes change their ideas of kinds a little, in part this does not at all affect practical life, in part these changes are excessively small compared with the constancy of most of the classes of notions. The *formal* part of language, however, wherein consists its properly philosophical value, undergoes a process of decomposition and of levelling *pari passu* with the progress of civilisation. The levelling of the Romance languages, especially the French, affords an example, an instance far more striking than that of the levelling of the German language in the Gothic, Old High German, Middle and New High German. The position of the parts of the sentence and of the sentences being fixed once for all, leaves no room for liberty of expression; a declension exists no longer, a neuter gender just as little, the tenses are reduced to four (in German even to two), the passive voice is wanting, all final syllables

are worn off; the affinity of syllabic stems, so expressive in natural languages, has for the most part become unrecognisable through attrition, thrusting out of consonants and other disfigurements, and the capability of forming compounds is lost. And yet German and French are languages infinitely rich and expressive compared with the dreary smoothness of the English, which, in a grammatical point of view, is again approaching with rapid strides the starting-point of the evolution, the Chinese. On the other hand, the farther we recede historically the greater becomes the wealth of forms. Greek has its middle, dual, and aorist, and an incredible capability of composition. The Sanskrit, as the oldest of the inflexional languages known to us, is said to excel all others in beauty and copiousness of forms. It results from this review that language needs no higher development of culture for its formation, but that such development is rather injurious to it, in that it is never able to preserve from corruption that which the past has elaborated, not even when it devotes a conscious and careful effort to its preservation and improvement (as, *e.g.*, the Académie Française). The linguistic development is carried on not only on the large scale and as a whole, but also in detail with the calm necessity of a natural product, and the forms of language, even at the present day, go on growing, deriding all the efforts of consciousness, as if they were independent creations to which the conscious mind only serves as a medium of their proper life.[1] Both this result and also the speculative depth and grandeur of language, as well as, in fine, its marvellous organic unity, which far exceeds the unity of a methodical systematic construction, should preserve us from regarding language as a product of conscious acute reflection. Schelling has said:—"The spirit which created language—and that is not the spirit of the *indivi-*

[1] Comp. Gobineau, "Inquiries on Different Expressions of Sporadic Life," 2d part, in the "Zeitschrift für Philosophie und Philosophische Kritike," vol. lii. p. 181 ff.

dual members of the people—has conceived it *as a whole*, just as creative Nature when she forms a skull has already in her view the nerve which is to traverse it."

To which the following may be added:—For the labour of an *individual*, the foundation is much too complicated and rich. Language is a work of the *masses*—the *people*. For the *conscious labour of many*, however, it is too *indivisible* an organism. Only the *instinct of masses*, as exhibited in the life of the hive and the ant-hill, can have created it. Further, although languages spring from different centres of development, deviate essentially from one another, yet the course of development is, in the main, so similar on all the different theatres of human culture, and with the most diverse national characters, that the agreement of the fundamental forms and the structure of the sentence in all stages of development is only explicable by a common instinct of humanity for forming language, by an all-pervading spirit which everywhere guides the development of language according to the same laws of bloom and decay.—Those to whom all the foregoing reasons do not appear decisive, must perforce allow the following, taken along with the above, to be conclusive, viz.: That all *conscious human* thought is only *possible by the help* of language, since we see that human thought without language (in the uneducated deaf and dumb, and also among healthy men who have grown up without human education), in the most favourable case, very little exceeds that of the cleverest domestic animals. Without language, or with a merely animal vocal language devoid of grammatical forms, a thinking so acute that the marvellously profound organism of universally identical fundamental forms should emerge as its conscious product, is, therefore, quite inexplicable. Rather, all progress in the development of language will be the first *condition* of progress in the elaboration of conscious thought, not its consequence, in that (like every instinct) it occurs at a time

when the culture of the people, as a whole, makes progress in the elaboration of thought a necessity.

Altogether, in the same way then as, beyond a doubt, the language of animals, in some ways so highly developed, or the language of feature, gesture, and natural sound of primitive man, is in production as in import a work of instinct, precisely in the same way must also human verbal language be a conception of genius, a work of the instinct of multitudes. For the rest, this result is confirmed by the most eminent and gifted linguists of this century. Thus, *e.g.*, Heyse, in his "System of Philology," says: "Language is a *natural* product of the human *mind;* its production is necessarily effected, without thoughtful intention and clear consciousness, from an *inner instinct* of the mind." Accordingly, to him language is a product "*not of the particular subjective mind*, or reflective understanding as free activity of the individual as such," but "of the *universal objective* mind, of human reason in its natural foundation." In like manner, Wilhelm von Humboldt ("Ueber das vergleichende Sprachstudium," sec. 13) says: "Thinking of the *natural instinct* of animals, we may call language an *intellectual* instinct of the reason." "It is of no avail to allow thousands and thousands of years for its invention. Language could not be invented unless its type were latent in the human understanding. . . . If any one imagines that the invention of language may take place gradually and progressively, by a reciprocal action, as it were,—that through a portion more of invented language man can become more man, and by this advance again invent more language, he misunderstands the inseparableness of human consciousness and human speech." Language "cannot, properly speaking, be taught; it can only be evoked. We can only favour the conditions, and then leave it to its own unfolding" (comp. below, p. 303 *ff.*) "How could the learner, merely through the expansion of his own developing conscious-

ness, master the spoken thought, if there were not in speaker and hearer the same essence, but differentiated for the sake of individual existence and communion, so that a symbol so refined and yet so personal as is the articulate sound suffices to affect both parties harmoniously like a mediator?" "The comprehension of another's meaning could not rest on a process of internal spontaneity, and intercourse through the medium of speech would be something quite other than the awakening of the hearer's linguistic faculty, if beneath all individual differences there were not a common human nature." Humboldt concludes, then, as we shall establish with greater generality farther on, from the nature of language alone: "That discrete individuality is in general only a phenomenon of the conditioned existence of spiritual beings;" that the conscious human mind and language have sprung from the common primitive foundation of the universal spirit. H. Steinthal, in his celebrated book, "Der Ursprung der Sprache," concludes his excellent objective criticism of his predecessors with the following formulation of the problem:—"Language is not innate in man, not revealed by God—man has *produced* it; but not the mere organic nature of man, but his *mind;* and finally, *not* the thinking *conscious* mind. *What* mind then in humanity, *i.e.*, what form of action of the human mind has produced language?" What other answer is conceivable to this than that of the *unconscious* spiritual activity, which with intuitive correctness acts here in natural instincts, there in intellectual instincts; here in the individual, there in the co-operative instincts; and everywhere alike, everywhere with infallible clairvoyant accuracy answers to the greatness of the need?

VII.

THE UNCONSCIOUS IN THOUGHT.

In the last chapter but one (pp. 283–285) we saw that every effort at recollection with a definite object requires the aid of the Unconscious, if the right idea is to be recalled, because consciousness does not embrace the slumbering ideas of memory,[1] accordingly cannot choose among them. If an unsuitable idea crops up, consciousness immediately perceives it to be inappropriate and rejects it; but all memories which have not yet emerged, but are only on the point of emerging, lie beyond its field of view, thus also outside of its choice; the Unconscious alone can make the appropriate choice. It might, perhaps, be suggested that past ideas are revived quite accidentally, and that consciousness keeps on rejecting the wrong one, until, at last, the right one makes its appearance. In abstract thinking such cases certainly do occur, where one rejects five or even more ideas before the right one occurs. In such cases, however, the process is pretty much the same as in the guessing of riddles, or the solution of a problem by trial, in that consciousness of itself does not exactly know what it wants, *i.e.*, that it knows the condition of fitness only in the form of abstract formulæ of words or numbers, but not in

[1] I here call attention once more to the point that the expression "slumbering ideas of memory" is an improper one, since we have here to do neither with conscious nor unconscious ideas, thus not with ideas at all, but with molecular dispositions of the brain for certain vibrations, on which the Unconscious reacts in the particular instance with certain conscious ideas.

immediate intuition; so that, in every single case, it must first insert the concrete value into the formulæ, and see whether the thing agrees. By this, however, it is evident that the reaction of the Unconscious on a motive, which is itself so obscure that it can only become clear by application to the concrete case, must be a more imperfect one than when the object is apparent in an immediately concrete and intuitive manner, as in the search for an appropriate partial presentation to complete an image, or verse, or melody, when so protracted a trial much more rarely takes place. In the flash of wit this will happen still more rarely; witticisms obtained by a process of trial generally fall very flat. But even in those cases, where experience shows a repeated rejection of the revived ideas, it should not be forgotten that all these rejected ideas are by no means absolutely fortuitous in respect of the particular object, but always tend to this goal, although they may not hit the nail upon the head. But even when this mark is wanting to them, one is obliged to admit that the ideas, which, apart from the particular end in view, would merely arise according to other laws of thought-succession, are just as numerous, and that then in very rare cases, after five or ten ideas have been rejected, the appropriate one would be revived, but in most cases a far greater number of attempts would be requisite. The consequence of this would be the impossibility of producing any regular train of thought; we should soon give up the disproportionate effort through sheer fatigue, and surrender ourselves only to spontaneous dreaming and impressions of the senses, like the inferior animals.

In thinking, the point is, that the right idea occur at the right moment; the intellectual genius (apart from the rapidity of the movement of thought) is only hereby distinguished from the stupid, fools, boobies, imbeciles, and madmen. For inference is always of the same kind. No madman and no dreamer has ever drawn a false simple

conclusion from his premisses, only their premisses are frequently valueless. Sometimes they are intrinsically erroneous, sometimes they are too narrow or too wide, sometimes certain irrelevant premisses are assumed, sometimes several successive inferences are run into one; and these errors are committed, because it is not every simple conclusion that is actually thought; moreover, every following conclusion tacitly implies new premisses. But wrongly to draw a simple conclusion from given premisses is, in my view, just as much beyond the bounds of possibility, as that an atom pushed by two forces should move otherwise than in the diagonal of the parallelogram of forces.

The essence of thinking is that the right ideas occur at the right time. Let us examine this proposition a little more closely. By thought, in the narrow sense, is meant the dividing, combining, and comparing of ideas. *The division* may consist in the cutting up of a space or time-whole, or in abstracting certain attributes. Every idea is divisible into an infinite number of species. The essential point, then, is how the line is drawn between the portion which one wishes to retain and that which one desires to let go. The main object of abstraction is to grasp many sensible particulars into a common notion. This can only contain what is alike in all; the partition must, then, be so made that, of all the simple ideas, only what is similar is retained, and the dissimilar let go. In other words, the idea of the common portion must occur to one possessed of the particulars. This is as distinctly a flash which cannot be forced, as in our former examples; for millions of men stare at the same objects, and only one gifted brain grasps the concept. How much richer in ideas is not the educated than the uneducated man! And the only reason of this is the *interest* in the idea with which the former has been inspired by education and instruction; for one cannot directly furnish anybody with a conception; one may assist him in his abstraction

by bringing forward very many sensuous particulars and excluding already familiar conceptions, but he must in the end find the notion for himself. A considerable difference in talent cannot, however, be supposed between educated and uneducated on the average; accordingly, it can only be the interest in the discovery which conditions the difference in the abundance of conceptions. The like also holds good of the different mental resources of man and brute, although here, certainly, natural endowment co-operates. The greatest discoveries of theoretical science often consist merely in the discovery of a new conception, in the cognition of a piece common to several other notions which has hitherto been disregarded, *e.g.*, the discovery by Newton of the conception gravitation. If it is interest which conditions the eliciting of the common element, the first flash of the conception is the appropriate reaction of the Unconscious on this stimulus of interest.

If this holds good of notions, which consist only in the separation of a common portion of many given ideas, so much the more must it hold of such as contain the relations of different ideas to one another, *e.g.*, equality, inequality, unity, plurality (number), totality, negation, disjunction, causality, &c.; for here the concept is a true creation, certainly out of given material, but still a creation from something not at all to be found as such in the given ideas. *E.g.*, equality cannot as such inhere in the dice A and B, for if B is not, A cannot have equality with B, but when B arises, this cannot change the constitution of A; thus A cannot acquire a quality through the origin of B which it had not before, consequently also not equality with B. The notion of equality can, therefore, not lie in the things, just as little in the perceptions as such produced by things, for the same line of argument may be adopted, consequently the notion of equality must be first created by the mind; but the mind also cannot arbitrarily declare two presentations to be equal or unequal, but only

when the ideas, apart from place and time, are identical, *i.e.*, if the two presentations, succeeding one another at the same spot in the field of vision without a time-interval, would give the impression of a single fixed unchanged presentation. Since this condition can never be satisfied realiter, the process can only be that the mind conceptually separates the identical portion of the two ideas. If it then perceives that the individual residue only consists of the space and time elements of the ideas, and does not affect their matter, it calls them equal, and thus acquires the notion of equality. It is, however, easy to see that, if this whole process is to be carried on consciously, the mind must already possess the faculty of abstraction, and consequently the notion of resemblance, in order to be able to separate the common portion of two representations, *i.e.*, must possess what it has to find, which is a contradiction. There remains then, since every human and animal mind has this conception, nothing but the assumption that this process is in the main carried on unconsciously, and only the result as concept of equality, or this judgment, "A and B are alike," comes into consciousness.

How indispensable the faculty of abstraction and the notion of resemblance contained therein is even for the first foundations of all thinking I shall briefly show by the instance of memory.

All human beings and animals know, when an idea or a perception occurs, whether they are already familiar with the matter of the same or not, *i.e.*, whether the perception is new, arises for the first time, or whether they have had it before. A mere idea, united with the consciousness that it has had a previous existence as a sense-percept, is called *Memory*. The recognition of sensuous perceptions is not denoted by this term, but is at least as important. The question is, How does the mind discover the mark of *former knowledge*, which indeed cannot lie in the idea itself, since every idea in and by itself appears as something new? The most obvious answer is, Through the association of

ideas; for similarity is one of the main conditions of revival. When, then, a perception makes its appearance a second time, the slumbering memory is aroused, and the mind has now, in place of one image, two, a vivid and a weak one, and the latter an instant later, whilst it only finds a single one in the case of new perceptions. Since it does not know itself as cause of the second weak image, it assumes the earlier vivid one to be the cause of the same; but since, on the other hand, the reason why the weak image appears in some cases, not in others, cannot well lie in the perceptions themselves, it assigns the cause of this appearance to a different disposition of the presentative faculty. If, along with the faint idea, the mind had without more ado the consciousness that the idea had been in the mind before, the matter would be explicable, but what is incomprehensible in the affair is just this: how it can come by this consciousness from what has gone before? The problem would not thereby be solved, but only its object pushed back a step farther. But here, now, we are helped by the consideration of similar sense-impressions, which follow one another in such quick succession, that the after-image of the first has not yet died away when the second occurs. Here the mind knows accordingly (1.) the identity of the after-image with the original impression, in virtue of the continuous fading of the latter; (2.) it knows from the weakened impression that the external object has ceased to act, and that only its copy remains; (3.) it knows that the sudden strengthening of the after-image occurring immediately on the second impression is an effect of the latter; (4.) it perceives the equality in content of the second impression with the strengthened copy of the first. From these premises it concludes that the disposition of the representative faculty, which conditioned the rise of the weak image after the second impression, was the existence of the after-image of the first, and that the second impression was the same as the first. As, now, such examples are repeated with different degrees of the

fading of impressions, it is analogically concluded that there, too, when the after-image of the first is no longer present on the occurrence of the second impression, the disposition in question of the representative faculty consists in a slumbering copy, and consequently the consciousness of previous knowledge results every time an idea calls up a weaker one resembling it. Thus, *e.g.*, when images rise before the mind in reverie, they must first attain to a certain degree of completeness, before by association they bring the whole situation lived through for a moment before the mind as a second image, and only at that moment does the consciousness suddenly spring up that one has experienced the thing before; not till then is the awakened memory consciously apprehended *as* memory.

One sees what an enormous apparatus of complicated reflection is requisite in order to produce so apparently simple a fundamental phenomenon, and that it is quite impossible in those times of the infancy of man and animal, when these notions were formed, that such a process should take place in consciousness, *especially as all the inferences here drawn already presuppose the ability to recognise the ideas as well known.* There therefore remains nothing for it but to suppose that this process also takes place in the Unconscious, and only its result instinctively appears in consciousness. The *certainty* also of a prior experience, which memory affords with not too great an interval between the two impressions, could never be attained by means of this artificial fabric of hypotheses and analogies.

Another example is afforded by *Causality*. Without doubt this idea is to be evolved logically, namely, by a calculation of probabilities, starting from the bare presupposition of pure chance, *i.e.*, absence of causation. If, namely, under such and such circumstances an event has occurred n times, the probability that under the same circumstances it will occur next time is $\frac{n+1}{n+2}$. Suppose, now, we call the occurrence of the event necessary when

its probability becomes = 1, then from this the *probability* can be evolved that the occurrence of the event is necessary or not necessary. But, as Kant showed, there is no meaning in causation beyond *the necessity of the occurrence under the circumstances in question,* since the notion of *production* is one arbitrarily introduced, and is, in fine, only an *improper figure of speech.*

Thus we can show the probability that this or that phenomenon is caused by these or those circumstances, and, in fact, our knowledge reaches no farther. Assuredly no one will believe that this is the way in which children and animals arrive at the notion of causality, and yet there is no other way to advance beyond the notion of mere succession to that of necessary sequence or effect; consequently this process also must take place in the Unconscious, and the notion of causality enter into consciousness as its ready-made result.

The same proof may also be given of the other ideas of relation: they can all only be developed discursively by way of logic, but these developments are all so delicate and in part so complicated, that they cannot possibly be wrought out in the consciousness of beings which form these conceptions for the first time; accordingly they appear in consciousness as something ready formed. Now he, who sees the impossibility of getting these conceptions from without and the necessity of forming them *himself,* asserts their a priority; whoever, on the other hand, takes his stand on the fact that such formative processes have no place at all in consciousness, but that their results are rather *given to it* as something ready formed, must maintain their a posteriority. Plato had a feeling of the two-sided truth when he called all learning Reminiscence. Schelling expresses it in the assertion, "So far as the Ego produces everything from itself, all . . . knowledge is *a priori;* but so far as we are not conscious of this productivity, so far is . . . everything *a posteriori.* . . . There are thus *a priori* ideas without

there being innate ideas" (comp. above, p. 24). Thus all the really *a priori* is a something posited by the Unconscious, which only comes into consciousness as result. So far as it is the *prius* of what is given, of the immediate content of consciousness, so far is it still unconscious; in that consciousness reflects on the content it finds, and concludes therefrom to the *prius* producing it, it perceives *a posteriori* the unconsciously active *a priori* (comp. in addition "Das Ding an Sich," pp. 66–73, 83–90). The ordinary empiricism fails to perceive the *a priori* element in the mind; philosophical speculation fails to see that everything *a priori* in the mind is only cognisable *a posteriori* (inductively).

The uniting of presentations, again, may be a joining together in space or in time, as in plastic or musical compositions, then it belongs to artistic production; or a compounding of conceptions into an indivisible idea, as in the formation of definitions; or an union of ideas through forms of relation, where one seeks the reason for the consequent, the matter for the form, the like for the like, for the one alternative the other, for the particular the general, or conversely. In every case one idea is possessed, and another is sought to satisfy the given relation. One has either in oneself what is sought as latent memory or not. In the latter case we have first to discover it, either directly or indirectly; in the former, the important point is that just the right one among the many ideas of memory comes to the surface. In both cases a reaction of the Unconscious is required.

The relation of the general to the particular has its simplest verbal expression in the judgment, when the subject represents the particular, the predicate the general. To every particular, however, there are very many universals, which are all contained in it; therefore every subject may very well receive several predicates; but which is the appropriate one depends solely on the aim of the train of thought. In judging, therefore, the same difficulty recurs

how the right idea is to come into the mind, no matter whether a predicate is sought for a subject or a subject for a predicate, since several particulars are in truth included under one universal.

The relation of reason and consequent possesses special importance for thought. It is always presented in the form of the syllogism, which in its simple form must always be correctly drawn, and may be proved by the law of contradiction. But now it is pretty evident that the syllogism does not bring out anything new whatsoever, as has been proved by John Stuart Mill and others, for the universal major premiss implicitly contains the special case in itself, which is only made explicit in the conclusion. But now as anybody can be convinced of the major as universal only by being convinced of all its applications, he must also be already convinced of the conclusion, or he is not convinced of the truth of the major premiss; and if the major has no certain but only probable validity, the conclusion also must have the same coefficient of probability as the major. It is hereby proved that syllogism in no way increases knowledge if once the premises are given, which is in perfect agreement with the circumstance that no rational human being thinks in syllogisms, but along with the thought of the premises has *eo ipso* already thought the conclusion at the same time, so that the syllogism never enters into consciousness as a special mode of thought. Accordingly, syllogism can have no immediate, but only a mediate significance for cognition. In truth, in all *particular* cases (where the *minor* is supplied) we are concerned with discovering the appropriate major; when this is found, the conclusion is at once in our consciousness—nay, even the major often remains an unconscious term of the process. Of course the same proposition can serve as minor for many majors, just as a subject may be supplied to many predicates; but just as, for the particular purpose of a judgment, only one predicate affords that deter-

mination of the subject which can serve to carry the train of thought forward to the desired goal, so also only one determinate major premiss can help to produce that conclusion which can advance this train of thought. The point then is, from among those universal propositions suspended in memory with which the given case may be combined as minor premiss, to summon just that one which is wanted into consciousness, *i.e.*, our general assertion is confirmed here too. *E.g.*, if I want to prove that the angles at the base of an isosceles triangle are equal to one another, I only need to remember the general proposition that in every triangle equal angles are opposite to equal sides ; as soon as this has become clear to me and I remember it, the conclusion also is *eo ipso* there. As when somebody asks me what I think of the weather, and at the same time makes the remark that the barometer has considerably fallen, I only need to remember the general proposition that after every considerable fall of the barometer the weather changes, then I have my conclusion as a matter of course: "The weather will change to-morrow." Here, even beyond the shadow of a doubt, the universal major premiss will remain unconscious, and the conclusion appear as a matter of course.

If we ask, however, how (with the exception of mathematics) we come by the general major propositions, examination shows that it is by way of *induction*, in that from a larger or smaller number of perceived special cases the general rule is deduced with greater or less probability. This probability is really implicitly contained in the cognition of the major, and among people educated and accustomed to think, can be arrived at numerically by bargaining and higgling about the conditions of a wager proposed for the nearest special case. But of course one has usually only an *obscure* idea of the coefficient of probability, which consequently is anything but *exact*, so that, *e.g.*, a tolerably high probability *is constantly confused with certainty* (*vide* religious beliefs),

Nevertheless, by the proposal of a wager both upper and lower limits may very soon be found, by which the quantity of probability is always to a certain degree determined, and with acute minds these limits may be approximated to one another by continued examination of the conditions of the wager.

The question how one arrives at the belief in the general rule is divisible, then, into the two questions: (1.) how do we come to pass at all from the particular to the universal? and (2.) how do we obtain the coefficient which represents the probability of a real value of the general expression that has been found? The former is only explained by the *practical need* of general rules, without which man would be quite helpless, since he would not know whether the earth would sustain his next step, or the trunk of a tree the next time support him on the water. It must then be pronounced a happy *idea* produced by the urgency of *necessity*, for in the particular cases themselves there is nothing at all to lead to their comprehension into a general rule. The second, however, is explained by inductive logic, so far as one understands by induction the logical deduction of a coefficient of probability. It is true the objective connection is made evident by this, but the subjective process of consciousness does not know these artificial methods: the natural understanding instinctively induces, and finds the result as something pre-formed in consciousness, without being able to give any further account concerning the How. There remains then nothing for it but to admit, that the unconscious logical in man relieves the consciously logical of an office, which is requisite for the existence of mankind, and yet exceeds the power of the unscientific consciousness. For when I have often seen rain or storms occur, along with such and such signs in the sky, I form the general rule, with a degree of probability of real validity dependent on the number of observations, without knowing anything about Mill's inductive methods of Agreement,

Difference, Residues, or Concomitant Variations; and yet my result agrees with the scientific so far as the vagueness of my coefficient of probability can confirm an agreement, and if one takes account at the same time of the possibly influential positive sources of error, as interest, &c.

Hitherto we have always only taken note of tolerably simple processes of thought—its elements, as it were; there still remain, however, the cases where, in the midst of a conscious chain of thought, several logically necessary links are overleapt by consciousness, and yet almost invariably the correct result appears. Here, again, the Unconscious will manifest itself to us very clearly as intuition, intellectual vision, direct knowledge, immanent logic.

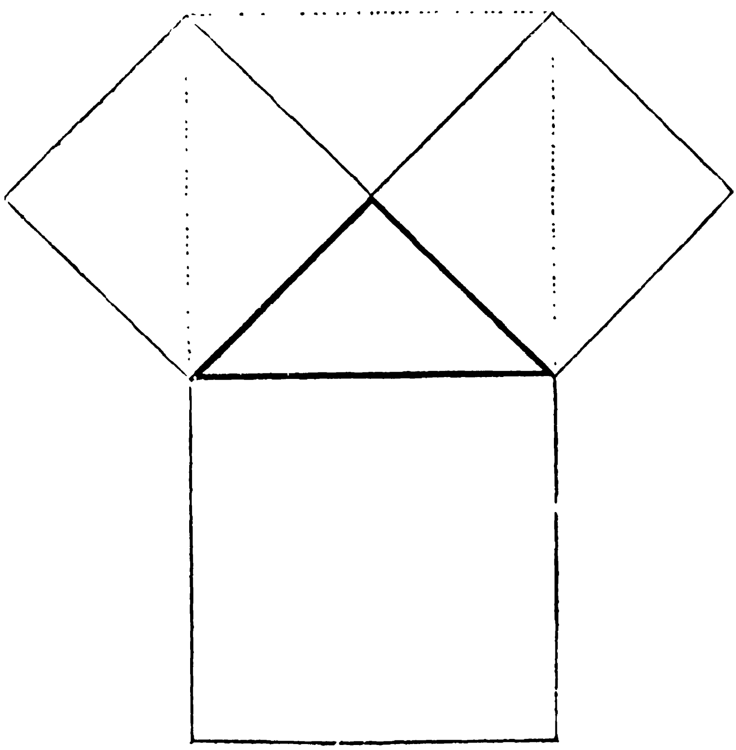
If we first regard mathematics in this light, it appears that two methods prevail in it, the deductive or discursive and the intuitive. The former mode of proof consists in gradual inferences, according to the law of contradiction, from admitted premises, thus answering in the main to the consciously logical and its discursive nature: it is usually taken to be the sole and exclusive method of mathematics, because it alone claims to be method and demonstration. The other method must renounce all claim to being a mode of argument, but is nevertheless a form of proof, therefore method, because it appeals to natural feeling, to sound common-sense, and by intellectual intuition teaches at a glance as much as, nay, even more than, the deductive method after a tedious demonstration. It comes before consciousness with its result, with the constraining force of logic, and that, too, without hesitation and reflection, but instantaneously, and has accordingly the character of the unconsciously logical. *E.g.*, nobody who looks at an equilateral triangle, if he has comprehended the question, will for a moment doubt whether the angles are equal. The deductive method can certainly prove it to him from still simpler premises, but the certainty of his intuitive knowledge will assuredly

not be increased thereby; on the contrary, if it is proved to him very neatly by calculation, and without perception of the figure, he will obtain less assurance than from simple intuition; he then merely learns that it *must* be so and cannot be otherwise, but here he sees that it *actually* is so, and still more, that it is necessarily so: he sees, as it were, as living organism from within, what appears to him by deduction merely as effect of a dead mechanism. He sees, so to speak, the "*how*" of the matter, not merely the "*that;*" in short, he feels much more satisfied.

It is Schopenhauer's merit to have rightly emphasised the value of this intuitive method, although he unduly slights the deductive method on that account. All the *axioms* of mathematics rest on this mode of proof, although, like more complex propositions, they may just as well be deduced from the law of contradiction; only, by reason of the simple nature of the subject, intuition acts here so strikingly in respect of conviction, that we almost regard the man as a fool who desires to deduce such principles. It accordingly happens that nobody has applied the necessary acuteness to really refer *all* the axioms of mathematics to the law of contradiction in application to given elements of space and number; hence the fixed idea of many philosophers (*e.g.*, Kant) that this reduction is not possible. But as surely as these axioms are logical, so surely is their deduction possible from the sole fundamental law of logic, the law of contradiction.

The axioms of mathematics are altogether useless for clear heads; these might commence the study of mathematics with axioms of a much more complex kind; but our mathematics is intended for schools, where even the stupidest must be taught, and these need to comprehend the axioms as logically necessary. The discursive or deductive method is adapted for everybody, because it proceeds step by step, but intuition is a matter of talent;

what the one sees at a glance is apprehended by the other only very circuitously. At a more advanced stage it is possible, by the reforming of geometrical figures, inversion, superposition, and other constructive aids, to assist intuition; but a point is soon reached where even a clear head can go no farther, and recourse must be had to the deductive method; *e.g.*, in the case of the isosceles right-angled triangle, the Pythagorean theorem may be



made evident to the eye by folding over the square of the hypothenuse; but in the scalene it is only to be comprehended deductively.—It follows from this, that the intuitive faculty far too soon leaves our most accomplished mathematicians in the lurch for much progress to be made by its means. All depends upon the degree of the capacity; and there is nothing absurd in supposing a *higher mind* so completely master of the intuitive method that it can *altogether* dispense with the deductive. The difficulty of intuition is pre-eminently shown very soon in algebra and analysis; only prodigious talents, like

Dahse, are here capable of an intuition which is able to conceive and to deal with large numbers as a whole. More frequently one finds among mathematicians the ability, in an orderly chain of inference, to make intuitive leaps and to omit a number of terms, so that from the premises of the first argument immediately the conclusion of the ensuing third and fifth springs into consciousness. All this allows us to conclude that the discursive or deductive method is only the lame walking on stilts of conscious logic, whilst rational intuition is the Pegasus flight of the Unconscious, which carries in a moment from earth to heaven. The whole of mathematics appears from this point of view as the tools and implements of our poor mind, which, obliged laboriously to heap stone on stone, yet can never touch the heavens with its hand, although it build beyond the clouds. A mind standing in closer connection with the Unconscious, then, would instantaneously grasp the solution of every profound problem intuitively, and yet with logical necessity, as we do in the simplest geometrical problems; and it is accordingly not wonderful that the embodied calculations of the Unconscious, without trouble being given to it, agree with such mathematical precision in the greatest as in the smallest matter; as, *e.g.*, in the cell of the bee, the angle at which the planes are inclined to one another, however exactly it be measured (to half-angular minutes), agrees with the angle which, with the form of the cell, affords the minimum of surface, in this case of wax, for the given space (comp. also p. 190, on the construction of the femur).

In all this we cannot doubt that in intuition the same logical links are present in the Unconscious, only what follows serially in conscious logic is compressed into a *point* of time. That only the last term comes into consciousness is due to the circumstance that it alone possesses interest for us; but that all the others are present in the Unconscious may be perceived, if the intuition be intentionally repeated in such a way that only the one

before the last, then the term before that, &c., emerges into consciousness. The relation between the two kinds is then to be conceived as follows: The intuitive leaps the space to be traversed at a bound; the discursive takes several steps; the space measured is in both cases precisely the same, but the time required for the purpose is different. Each putting of the foot to the ground forms a point of rest, a station, consisting of cerebral vibrations which produce a conscious idea, and for that purpose need time (a quarter—two seconds). The leaping or stepping itself, on the other hand, is in both cases something momentary, timeless, because empirically falling into the Unconscious; the process proper is thus *always* unconscious, the difference is only whether, between the conscious stations for halting, greater or lesser tracts be traversed. In the case of small steps, even the heavy and clumsy thinker feels sure that he does not trip; with greater leaps, however, the danger of stumbling increases, and only the dexterous and nimble brain attempts them with advantage. The dull brain suffers a twofold loss of time with its greater discursiveness of thought. In the first place, the halt at each single station is greater in its case, because the single idea needs longer time to become conscious with the same clearness; and, in the second place, it must have more pauses. That, however, really the precise process is in every, even the smallest step of thought, intuitive and unconscious, on that point, after what has been said, scarcely any doubt can well remain.

But even outside of mathematics we can follow the interblending of the discursive and intuitive method. The practised chess-player possibly reviews in his mind the result *of this and that* move three or four moves ahead, but it does not at all occur to him to consider a hundred thousand other possible moves, five or six of which the bad chess-player perhaps considers, without lighting on the two which alone claim the attention of the proficient. How now does it come to pass that the latter does not at all take note

of these five or six moves, which would probably only be revealed as less good after two to three other moves had been made? He looks at the chessboard, and without reflection *he* immediately *sees* the only two good moves. This is the work of a moment, even if he be a passing spectator of a game played by others. In the same way the general of genius *sees* the point for the demonstration or the decisive attack, also without reflection (comp. above, p. 23, the reference to Heine). Practice is a word which here does not at all affect the question; practice can facilitate reflection, but never supply the want of it except in mechanical works, where another nerve-centre acts vicariously for the brain. But here, where we are dealing with something quite different, the question is, What instantaneously makes the appropriate choice if it is not conscious reflection? Manifestly the Unconscious.

Look at the antics of a young ape. Cuvier tells of a young Bhunder (*Macacus Rhesus*) (see Brehm's Illustr. Thierleben, i. 64): "After about the lapse of a fortnight it began to separate from its mother, and at once exhibited in its first steps an adroitness, a strength, which could not but excite universal astonishment, practice and experience both having been wanting. The young Bhunder from the very first clung to the perpendicular iron bars of its cage, and clambered up and down according to its fancy; perhaps made also a few steps on the straw; sprang of its own accord from the summit of its cage on to its four hands, and then again against the bars, to which it clung, with a velocity and accuracy which would have done honour to the most experienced monkey." How does this ape, just released from the skin of its mother, upon whose breast it has hitherto hung, come to measure aright the force and direction of its leaps? How does the lion, springing at the distance of twelve feet upon its prey, calculate the curve with the proper angle and velocity? How the dog the curve of the morsel which it catches so cleverly at any distance

and at any angle? Practice *only facilitates the action* of the Unconscious on the nerve-centres, and where these are already sufficiently prepared for their office without practice we see even this practice dispensed with, as in the above-mentioned ape; but that which is substituted for the lacking mathematical calculation can, as in the cell-structure of the bee, only be mathematical intuition combined with the instinct to execute the movement.

As concerns the overleaping of conclusions in ordinary thought, this is a very well-known experience. Without this acceleration thought would be of such a snail's-pace that, as now frequently happens in the case of human beings with sluggish brains, in many practical reflections one would arrive too late with one's result, and would hate the whole labour of thought on account of its cumbrousness, as it is now hated and avoided merely by specially lazy thinkers. The simplest case of skipping is when the conclusion is immediately drawn from the minor premiss without our being conscious of the major premiss; but also one or several actual conclusions are sometimes omitted, as we have already seen in mathematics. This commonly happens only in one's own thinking; in communication we have regard to the understanding of others, and recover the principal intermediate links that have previously remained unknown. Women and the uneducated frequently neglect this, and then there arise those leaps in their trains of thought which may be convincing to the speaker, although the hearer is wholly unable to see how he is to get from point to point. Any one accustomed to introspection will be able to catch himself making considerable leaps in carrying on a train of thought and in drawing inferences, if he make this review directly after prosecuting a new and very interesting study with zeal and success.

An observation of Jessen, the well-known student of mental disease, on an allied topic, is interesting ("Psychology," pp. 235, 236), which I will take the liberty of

quoting:—"When we reflect on anything with the whole force of our mind, we may fall into a state of entire unconsciousness, in which we not only forget the outer world, but also *know nothing at all of ourselves and the thoughts passing within us.* After a shorter or longer time, we then *suddenly* awake as from a dream, and usually *at the same moment the result of our meditation appears clearly and distinctly in consciousness, without our knowing how we have reached it.* Also, in a less severe meditation, there occur moments in which a perfect vacancy of thought is combined with the consciousness of our own mental effort, to which in the next moment a more vivid stream of thought succeeds. Certainly some practice is required to combine serious reflection with simultaneous self-observation, as the endeavour to observe thoughts in their origin and their succession may easily produce disturbances of thinking and arrest the evolution of our thoughts. Repeated attempts, however, put us in a position clearly to perceive that in fact in every arduous reflection a constant inner pulsation, or a changing ebb and flow of thoughts, as it were, takes place—a moment in which all thoughts disappear from consciousness, and only the consciousness of an inner mental strain remains, and a moment in which the thoughts stream in in greater fulness and distinctly emerge into consciousness. The lower the ebb, the stronger the succeeding flood is wont to be; the stronger the previous inner tension, the stronger and livelier the contents of the emerging thoughts." The purely empirical observations of this fine mental observer are a confirmation of our way of regarding the matter, the more above suspicion as he is not at all acquainted with our conception of unconscious thinking, and nevertheless is constrained to the verbal acknowledgment of our assertions (in the passages in italics) by the pure force of facts; although his subsequent attempts at explanation, which are in essentials (brainless thinking)

quite correct, do not hit the nail on the head, just because they do not grasp the notion of the Unconscious as principle of thought apart from a brain. The consciousness of mental effort observed in these processes is only the feeling of the tension of the brain and the scalp (by reflex action). The moments of vacancy of consciousness that are described, on which the result follows *without our being aware how it has been arrived at*, are those very moments when, in the productive thinking out of a zealously pursued object of study, the skipping of a longer train of inferences takes place.

Truly man is so accustomed to find in his consciousness results of which he is quite ignorant how he has come by them, that in any particular case he is not wont to wonder at it in the least; and therefore it is also natural that an inquirer should not first reach the notion of the Unconscious from this starting-point. But as in general the reaction of the Unconscious is wont most frequently to fail when one intentionally seeks to stimulate it, so in the eager and intentional reflection on a subject this effective entrance of the Unconscious might be less easy to establish to the satisfaction of the majority, than in the so-called mental digestion and assimilation of the received nutriment, which does not occur on a conscious impulse, but at an indeterminate time, and is only announced by the results, which opportunely occur without our having been consciously occupied with the affair. (Schopenhauer calls this "unconscious rumination," comp. above, p. 29.) Thus it regularly happens with me when I have read a work which presents new points of view essentially opposed to my previous opinions. The proofs of such ingenious ideas are often rather weak; and even if they are good and apparently irrefutable, still no human being can be so rapidly converted from his old opinions, for he can advance just as good grounds for the latter, or, if he cannot do so himself, he confides in himself and not the new author and thinks: counter-proofs will be

found, although I am not at present acquainted with them. Then there intervene other occupations; the matter is not sufficiently important to hunt for counter-arguments, for which search must be made in books, often for weeks, nay, months; in short, the first impression gets weak, and the whole affair is in time forgotten. Sometimes, however, it is different. If the new ideas have made a really deep impression, they may be referred provisionally, unaccepted, as undecided questions, to the court of memory, may even be obstructed by other occupations, or, still better, intentionally laid on one side, in order to be thought of again. Nevertheless the matter is only apparently laid to rest, and after days, weeks, or months, when the wish and opportunity arise to give an opinion on the question, we find to our very great astonishment that we have undergone a mental regeneration on the point, that the old opinions which we had taken for actual conviction up to that moment have been entirely renounced, and that new ones have already become quietly lodged there. This unconscious mental process of digestion and assimilation I have several times experienced in my own case, and have always had a certain instinct not to disturb this process prematurely by conscious reflection in real questions of principle affecting the general view of the world and of the mind.

I am of opinion that even in more unimportant questions, as soon as they only awaken interest with sufficient vividness, thus in all concerns of practical life, the process described always affords the right and true decision, and that the conscious reasons will only be subsequently right when the judgment has been already formed. The ordinary understanding, however, which does not pay attention to these processes, really imagines that it is swayed in its opinion by the reasons which have been sought for, whilst an acuter self-observation would teach it that these only come in the cases alluded to when its view is already fixed, its resolution taken. In saying this, it is by no

means asserted that the Unconscious is not determined by logical reasons. This is most undoubtedly the case; it is only tolerably indifferent so far as concerns the certainty of the decision, at any rate at first, whether the reasons afterwards sought for by consciousness agree with those reasons which have determined the Unconscious or not! In the case of acutely thinking brains the former, with the great majority the latter, will be prevailingly the case, and accordingly the phenomenon is explained, that people often seem to derive such firm conviction from such bad reasons, and allow themselves to be dispossessed of it with much difficulty by the best counter-arguments. It lies just in this, that the true unconscious reasons are not at all known to them, and therefore are not to be refuted. It is here indifferent whether their conviction contains truth or not; also of errors (which as said never arise from false conclusions, but from the insufficiency and falsehood of the premisses), those are most difficult to eradicate which are the result of an unconscious process of thought (*e.g.*, in political opinion those which are unconsciously rooted in professional and class interests).

If now, however, any one should be led by these considerations to lightly estimate conscious ratiocination, such an one would fall into serious error. Just because, in conclusions attained at a bound, errors easily slip in, it is imperatively necessary in important questions to render the individual terms clear by discursive thought, and to descend by such small stages of thought that one may be as far as possible protected from errors in the conclusion. Just because in the opinions, whose true proof lies in the Unconscious, the perversion of the judgment by interests and inclinations is withdrawn from all control and has such free scope, it is doubly necessary to draw the subjective proof to the light, and to confront it with the results of discursive logical inferences, since only in the latter is there to be found a certain, if also always a very defective, guarantee of objectivity. If the subjective prejudices

be stronger for the moment, conscious logic gains ground with time, if not in one, yet in the course of many generations. But even in this emergence of certain truths to the light of consciousness, and in their struggle and victory over dominant ideas of the time, there rules again, as we shall see hereafter, an unconscious logic, a historical providence, which has never been perceived more clearly than by Hegel.

VIII.

THE UNCONSCIOUS IN THE ORIGIN OF SENSE-PERCEPTION.

KANT in his "Transcendental Æsthetic" maintained that Space was not passively received by the mind, but spontaneously produced by it,—hereby causing an entire philosophical revolution. But now, why has this correct statement been at all times so stoutly opposed by common sense, as well as, with few exceptions, by the scientific mind?

1. Because Kant, and after him Fichte and Schopenhauer, drew from a true proposition subjective-idealistic consequences, which were false and repugnant to the instinct of the healthy reason.

2. Because Kant had given faulty proofs of his correct assertion; which in truth proved nothing at all.

3. Because Kant, *without giving any further account of it*, speaks of an *unconscious* process in the mind, whilst the previous mode of treatment only knew and regarded as possible conscious mental processes, but consciousness denies a spontaneous production of Space and Time, and with perfect truth insists upon their being given in sense-perception as *faits accomplis*.

4. Because Kant put Time, of which this proposition does not hold good, on a level with Space.

These four points we have successively to consider, since the unconscious production of Space is the indispensable foundation of sensuous perception, with which consciousness takes its rise, and which in its turn is the foundation of all conscious thought.

Ad. I. In the first place, assuming it be proved that Space and Time can in no other way find an entrance to thought than by the spontaneous activity of the latter, it by no means follows from this that Space and Time can have real existence *exclusively* in thought, and not also outside thought in the real world. The overhasty nature of this conclusion, which Kant actually draws, and through which he comes to the denial of the transcendental reality of space and to the one-sided ideality of his system, has been shown by Schelling ("Exposition of the Process of Nature," Werke, i. 10, 314–321) and Trendelenburg ("On a Gap in Kant's Proof of the Exclusive Subjectivity of Space and Time," in the third volume of the "Historical Contributions," No. vii.) It is more fully discussed in my essay, "The Thing in Itself and its Constitution" (Berlin: C. Duncker, 1871), particularly in the last two sections: vii. "Space and Time as Forms of the Thing in Itself;" and viii. "Critique of the Transcendental Æsthetic." Here, however, we can only consider with all brevity the reasons which render it probable that Space and Time are just as much forms of existence as of thought.

(*a.*) We have first to give a clear statement of the reasons for believing in the real existence of a Non-Ego, or an external world lying beyond the Ego. Only two hypotheses are logically possible. Either the Ego unconsciously fashions the world of appearance from its own essence, in which case the Ego alone really exists, and *per consequentiam* every reader must deny the existence not only of external things but of all other men; or there exists a Non-Ego independent of the Ego, and the representation of the external world in the Ego is the product of these two factors. Which of these hypotheses is the more probable must be decided by this; which more easily explains the phenomenal world? either is conceivable.

(*a.*) Sense-impressions have a degree of vividness which

pure ideas produced by our own mental activity are wont only to attain in morbid states. Moreover, they often (especially in the years of childhood) bring real additions to the stock of knowledge, whereas the class to which they are opposed is always made up of familiar memories and portions of the same. This is easily explained by the assumption of an external world, hardly from the Ego alone.

(*β.*) For the origination of a sense-impression the feeling of the open sense is requisite; on the other hand, the feeling of the open sense does not necessarily produce a sense-impression, *e.g.*, in darkness, anosmia. This is easily explained by the influence of an external world, hardly from the Ego alone.

(*γ.*) Sensuous representations arise according to the law of the succession of thought from antecedent representations in accordance with the particular mood, &c.—Sensuous impressions for the most part appear suddenly and unexpectedly, and always disconnected with the internal train of thoughts. This phenomenon is only possible without action of an external world if the law of mental succession holds good at one time and not at another, strictly explicable it is not even on this assumption from the Ego alone.

(*δ.*) Most impressions have this peculiarity, that their assumed object is also simultaneously inferred from another impression of another sense (*e.g.*, a dish of food may be simultaneously seen, smelt, tasted, touched). This is easily explained by the action of an external world, hardly by mere internal mental processes. For if one should assume that the co-existent sense-impressions mutually arouse one another, *e.g.*, the visual impression of a dish of food brings with it the odorous impressions, the olfactory sense being open, he would be refuted by the fact that the sense of smell and sight may be alternately opened and closed, and yet each time receive the appropriate sense-impression of the food. Should any one in reply to this

make the further assumption, that not merely the simultaneous, but also the antecedent visual impression of the viands have power to produce the odorous impression of the same and conversely, he would be met by the circumstance that on the alternate opening and closing of the two senses, the visual impression can be had at one time but not at another, namely, when the viands are removed, so that the odorous impression under otherwise similar circumstances would call forth the visual impression at one time but not at another, which contradicts the principle, "Like causes, like effects." (See further Wiener, "Grundzüge der Weltordnung," Band 3, under "Proof of the Reality of the External World.")

(ε.) Things, *i.e.*, the causes of the impressions of sense, act on one another according to laws strictly definite. Now, if the impressions of sense are to be explained from the Ego alone, these laws must be transferable to the inner mental processes. But this is not so; for only in the rarest cases do the sense-impressions of cause and effect follow one another as cause and effect in the outward world. Often, on the contrary, the effect is perceived at one time and the cause at another and later time; but a later sense-impression cannot be the cause of an earlier one.

(ζ.) Every Ego, besides the idea of its own body, receives also ideas of a great number of extraneous bodies similar to its own, in which reside mental faculties similar to its own. It finds that all these existences announce the same representations concerning Ego and Non-Ego, and that their declarations concerning the constitution of the external world partly agree with one another in a surprising manner, partly check one another, and lead to the conviction of error. Each Ego sees these existences born, grow, die like itself; it receives from them protection, help, and instruction during the age of childhood, when its own force and knowledge is insufficient; and receives at every period of its life, directly or in-

directly (through books) instruction from others, in which thoughts occur which it is compelled to confess itself unable to grasp. It learns by the aid of teachers to follow backwards the succession of its fellow-beings, and to perceive a plan in history in which it is obliged to look upon itself as a link. All this is almost impossible with the sole existence of the Ego, but easily to be explained by the existence of one external world common to all Ego's, which includes within it the bodies of these reciprocally acting Ego's. As other Ego's can only act on me through their bodies, every inference to the transcendent reality of other Ego's is *illegitimate* if it is not mediated by the inference to the transcendent reality of my own and other bodies, and founded thereon.

(η.) The internal ideas can be called forth, retained, and repeated at pleasure by the conscious will, the impressions of sense—the sense-organ being open—are entirely independent of the conscious will. This is easily to be explained by the action of an external world, hardly from the Ego alone. An unconscious will would in that case have to produce things, and then mirror to the consciousness of the solitary Ego the semblance of an external world—a piece of juggling in which there would be no rhyme or reason at all, and, as the preceding paragraphs prove, the wildest whim and caprice would have to be united with the strictest regularity in an incomprehensible fashion, and the highest wisdom would be wasted on a bubble, a lunatic dream.

One sees from what has been adduced that the probability of the existence of a Non-Ego existing independently over against the Ego, and causally influencing the Ego, is as great as it could possibly be, and that here again natural instinct is justified by scientific reflection. From this necessity of having an external transcendent causality for the origination of sense-impressions even Kant and Fichte could not free themselves, although they deny it in words; for, with Kant, the *content of*

intuition is absolutely given; and although he thereby contradicts his own doctrine of the merely immanent import of Causality, he yet says repeatedly and expressly that that *whereby* this content is given is the thing in itself (comp. "The Thing in Itself," sect iv., "The Transcendent Cause," and v. "Transcendent and Immanent Causality"). Fichte, again, after all his unsuccessful attempts to weave the Non-Ego entirely from the Ego, cannot do without an *external impulse* for this activity of the Ego, and this impulse stands with Fichte for the true Non-Ego. Berkeley, too, suggests a transcendent cause for every perception, referring everything, however (overleaping the world of things in themselves), without distinction, directly to the Absolute, *i.e.*, foregoes the attempt to explain our perceptions, and every attempt to penetrate the mystery of the real connections of their special originating causes.

If it is now established that even the most consistent Idealists have not had the courage to be consistent to the extent of denying an independent Non-Ego, if the feeling is not to be got rid of that perception, on the whole, is something thrust upon one from without in opposition to one's own will, it results with the same certainty, from what has been stated, that the *distinctions also in sensuous perceptions* are not produced by the Ego, but are *thrust upon it* by the Non-Ego. For insight would not at all be enlarged if the Non-Ego were always one and the same, and consequently always acted in one and the same way, supplying merely an external shock. For then it would again be left to the Ego, in strange caprice to suspend on the ever-identical impulse of the Non-Ego now this, now that spatial or temporal determination or category of thought as an indifferent cloak, and in this way itself to construct the whole *How* and *What* of the external world, the impulse only guaranteeing the *That.* In this all the before-mentioned difficulties repeat themselves unchanged. Thus even Schopenhauer lets the distinctions in the intuitions of the world of representation

be altogether conditioned by corresponding modifications in the essential will of the things-in-themselves, which through them become representable in thought (Parerga, § 103 b). By this, however, he, in fact, again leaves room for the transcendent causality which he has expressly rejected in words, for how are the things-in-themselves of this horse or this rose to set about determining my representations of either according to the modifications of their nature, unless by a transcendent causality, which is immediately manifested as definite affection of my sense-organs ?

Every *single determination* in perception must then be conceived as effect of the Non-Ego ; and as different effects presuppose different causes, we obtain a system of as many differences in the Non-Ego as there exist distinctions in perception. Now, certainly these differences in the Non-Ego might be of a non-spatial and non-temporal character, and Space and Time forms belonging to thought alone; but then these differences must have place in the other objective forms, which would have to run parallel to the objective forms of Space and Time, since, without other forms of being replacing Space and Time in the Non-Ego, no corresponding difference could have place therein. This assumption of other but corresponding forms in the Non-Ego, which seems to have hovered before Reinhold and afterwards Herbart in their intelligible Space and Time, would, quite apart from the fact that it excludes the possibility of any objective knowledge of things, contradict, without offering any equivalent advantage, the generally observed law that Nature always chooses the simplest means to its ends. Why should it make use of four forms when it could get along quite as well and even better with two ? The parallelism of these pairs of forms in Existence and Thought, and their reciprocity, which, in fact, exists in perception and action, would require a pre-established harmony, which, on our assumption, would resolve itself into the identity of the forms.

Hegel likewise says (Larger Logic, Introd., p. 8): "If they (the forms of the Understanding) cannot be determinations of the thing-in-itself, still less can they be determinations of the Understanding, to which at least the dignity of a thing-in-itself should be assigned."

(*b.*) Mathematics is the science of the presentations of Space and Time, as our thought forms, and cannot otherwise form them. Now, if we measure a real triangle, given not by thought, but by successive perceptions which may be too great for simultaneous intuition, and find in all similar attempts at measurement the same law confirmed which pure thought gave us, that the sum of the angles = 2 R; further, if we take note that the determinations of the perception are something necessarily imposed on the mind by the system of differences in the Non-Ego, thus have their causes in differences of the Non-Ego, it follows from the empirical confirmation of the mathematical laws, to which there is no exception, that the distinctions in the Non-Ego obey laws which certainly must correspond to the forms of the latter, but run so entirely parallel with the rational laws of Space and Time, that here again the assumption of a pre-established harmony is unavoidable, whilst an identity of the laws agreeing with the identity of the forms requires no such forced assumption.

(*c.*) The senses of Sight and Touch receive their impressions from qualities of body altogether different, by quite distinct media and quite different physiological processes; nevertheless we obtain from them spatial perceptions which exhibit as great an agreement as possible, and which confirm one another. Now, were the objects not themselves in Space, but existed in any other form of being, it would be in the highest degree wonderful that they should produce in the mind in such different ways such congruent spatial figures; thus, *e.g.*, the seen ball never appears as felt die or anything else, but as felt ball. On the assumption of Space as real form of existence this puzzle vanishes.

(*d.*) Only sight and touch, but none of the other senses, are able to arouse in the mind the perception of Space. (For when we hear where a sound comes from, the comparison of the strength of the sound in the two ears is chiefly relied upon; comp. p. 337.) Kant entirely overlooked this, otherwise he could not have set up his division of outer (Space-sense) and inner (Time-) sense. To subjective idealism this whim of the mind is absolutely incomprehensible, which nevertheless occurs with the appearance of external necessity; but it is just as incomprehensible if other corresponding forms are assigned to existence. Only the physiological consideration of the local construction of the different sense-organs can here afford a ready explanation; but if the body and the senses do not exist in Space, here, too, all possibility of comprehension is precluded.

These four considerations taken together render it highly probable that common sense is right in believing that Space and Time are just as much objective forms of existence as subjective forms of thought. This *formal* identity of thought and being is almost self-evident for one who assumes their essential identity (comp. C. Chap. xiv.)

Ad. II. As we do not intend to *dispute* but *to assume* the assertion of Kant placed at the head of this chapter, there is no reason to show here why the Kantian proof is *no proof*, and leaves the question quite open (comp. "The Thing in Itself," viii. "Kritik der Transcendentalen Æsthetik"). We shall, however, offer other reasons in lieu thereof.

A naïve theory of immediate perception regarded the sense-impressions as images of the things, which perfectly correspond to them, as the reflected image to its object. When Locke and modern physical science had made the complete heterogeneity of the sensation and the quality of the object the common property of science, the *retinal image* which was perceived in *the eyes of other beings* was substituted for the thing, and the sensation in its content

was now said to be identical with the retinal image as formerly with the thing,—a view which is still a common one. It was, however, thereby forgotten that it is something quite different to perceive an objective image *within the extent of an eye* in the eye of another *with one's own eyes*, or even to have the visual sensation determinable only according to *angular degrees without absolute superficial magnitude*. It was forgotten that the mind does not sit as a second eye *behind* the retina and look at this image; it was not seen that one committed *the same* fault as before in the case of things, only in a *more disguised fashion;* for what appears to another eye as a retinal *image is in this eye itself nothing but vibrating molecules*, just as well as that which in things appears to the beholder as colour, brightness, &c., are in the objects only molecular vibrations. People accordingly allowed themselves to be duped by the pleasure of having discovered a *camera obscura* in the eye, and considered the former problem to be solved, whereas it had only been shelved for an external question. The physiology of the eye has since discovered that the eye is not a camera to exhibit diminutive images to the mind on the retinal ground, but a photographic apparatus, which so changes the molecular vibrations of the retina chemically-dynamically, that modes of vibration which have hardly any resemblance to the light vibrations in the ether are handed on to the optic nerve to be propagated farther, so that those modifications of light, *e.g.*, which are felt as colour, are in the nerve combinations of variously strong functions of three different kinds of end-organs in the retina, whilst the corresponding modifications of the physical ray of light are only discriminated by the wave-lengths of the vibrations. Further, light has a velocity of about 200,000 miles in a second, the process in the optic nerve only one of about a hundred feet.

Thus much is established, that the qualitative conversion of light vibrations on their entrance into the retina is of the greatest importance, and would give the final

death-blow to the view which assigns an importance to the image on the retina accidentally observable by other eyes, if the idea were not in itself absurd, that the optic nerve, like a second eye, looks at this image—and then? But perhaps the central organ of vision (the corpora quadrigemina), as a third eye, looks at the image of the optic nerve, and then the central organ of thought (the cerebral hemispheres), as fourth eye, the image of the corpora quadrigemina, and then, perhaps, a definite central cell or the cerebral centre of consciousness as fifth eye, the image of the cerebrum, not to push the matter directly to the sixth eye of a punctual central monad having its seat at some place or other in the brain! For this much is to be looked upon as physiologically established, that the *sensation* of sight can *at the earliest* take place in the central part into which the optic nerve runs in the corpora quadrigemina, but not in the course of the optic nerve itself. On the entrance of the nerve into the centre, however, we must assume another conversion of the modes of vibration, on account of the altered structure of the nervous matter, and because the importance of the central parts for perception would cease if the form of vibration remained unchanged, because then the sense must react with sensation on the vibrations of the optic nerve. In the corpora quadrigemina again, however, those extended *thought*-processes, in which the space-intuition is always found as an integral element, cannot take place. As such have their seat in the cerebral hemispheres, so also the visual sensations, which underlie the space-intuition, just as the sensations of touch, which again are developed at another spot in the brain, must be first conducted to the cerebrum, in order there, by help of thought, to acquire the extension of the space-intuition.

If, now, the object-image on the retina can be compared with a mosaic, which resembles the thing itself in its proportions, yet the isolated primitive nerve-fibres are far too much interlaced for an ideal section of the optic nerve

on its entrance into the corpora quadrigemina to exhibit an order and position of the fibres corresponding to the retinal image; and even worse founded would be the assumption that in the central organ itself there occurs such a localised affection of cells, that between it and the retinal image a like proportionality of extensive relations obtains as between retinal affection and thing. But since these affected cells in the central organ itself would even then be still relatively dependent, and would communicate with one another only by fixed paths, even on such an unjustified assumption, it would still not be clear how the consciousness resulting as aggregate phenomenon from the plural cell-consciousness could come to order sensations in an extension, which should correspond to the relative positions of the affected cells. There is no bridge between the real spatial position of the material parts which produce sensations and the ideal spatial position of the conscious sensations ordered in extensive intuition; for space as real form of existence and space as conscious ideal form of intuition are as incommensurable as the real and the imaginary part of a complex number, although both are *in themselves* subject to the same formal laws. This is also the reason why even the physiologically untenable theories of a single ultimate central cell (how soon must it get fatigued!) or of a punctual central monad are altogether incapable of forming this bridge. If real and conscious ideal space are heterogeneous spheres, of which the one can have no part in the other, real space-relations of the sensation-forming material parts cannot have any influence on sensation at all; the *position* of the sensitive parts of the brain is *indifferent*, and only the mode of vibration, dependent partly on the nature of the central parts, partly on the intensity and quality of the conveyed motion, can influence the character of the resulting intuition.

This law, which must be self-evident *a priori* to every philosopher, for the rest, has already been formulated

on the physiological side, and can hardly be seriously impugned. Lotze thus expresses it:—*Identical vibrations of different central molecules call forth undistinguishable sensations*, so that several simultaneously vibrating molecules of identical form of vibration produce a sensation, which *qualitatively* resembles the sensation excited by any one of these molecules, but *quantitatively* possesses the degree of strength of the *sum* of all the single sensations. If a person smells with one nostril, he has the same sensation, only more faintly, as if he smelt with two; and if the tactile nerves of the nose did not feel the stream of permeating air, the olfactory nerve alone would not in the normal state perceive the smell of the left and right nostril as different. The like holds good of taste, if it affects a smaller or larger part of the tongue and palate; only the simultaneous tactile feelings of contact, of the contraction of the skin, &c., distinguish the place touched; the taste itself becomes only stronger or weaker. Whether a sound reaches the left or right ear is only perceived by the feelings of tension excited simultaneously in the ear, partly directly, partly reflectorially. Here, too, it is not at all the auditory nerve, but tactile nerves, especially in the richly-supplied tympanum, which condition the feeling of localisation, as clearly follows from Ed. Weber's diving experiments, which prove that this local feeling remains only so long as the auditory passages are filled with air, but is lost if the tympana are rendered inactive by the filling of the auditory passages with water. In vision we receive different impressions from the same point of light, it is true, if its image falls on differently situated places of one or both eyes; but the impressions are not to be distinguished when they fall on corresponding parts of both eyes. In a well-contrived arrangement of the experiment one is not at all aware whether one sees a light with the right or with the left, or with both eyes at once, if information on the point cannot be obtained by other expedients. The visual impressions of

corresponding points of the two eyes are combined into a single strengthened impression.

According to Lotze's theory we should not be able to distinguish whether a pain, feeling, touch, &c., affects the right or left half of the body, unless, owing to the want of symmetry, even in the smallest particular, of the two halves of the body, the accompanying sensations of tension, extension, pressure, &c., were not the same on the right half of the body as on the left, so that by this qualitative incongruence of the sensations, with the help of practice, we are enabled to distinguish right and left in our own body. In hearing, taste, and smell, also, as already mentioned, such attendant circumstances are present, making possible a certain discrimination of congruent sensations, according to the place acted on; but it is important, that here the nerve-trunks which mediate the specific sensation and those which report the accompanying differences are different, whence it follows, that if, by cutting off the latter, or by other well-contrived elimination of the accompanying differences, the pure sense-perceptions are excluded from the experiment, these are no longer able to afford the consciousness of local differences, and are thus altogether *unable to produce space-intuitions.* Otherwise is it with the senses of Touch and Sight. Every similar sensation of Touch at various parts of the skin is combined with characteristic accompanying differences, which are founded on the particular displacement, tension, extension, and participation of juxtaposed and underlying sensitive parts, when pressure is exerted on the skin, according to the softness or hardness, the special form of the limb, nature of the subjacent parts, thickness of the sensitive tactile corpuscles, &c., and which are almost all conducted to the brain through the same nerve-trunks. In the same way a similar sensation of colour or light is associated with characteristic differences, according to the point of the retina that is affected, which are founded: (1) on the decreasing distinctness of

the perception of similar impressions from the centre to the periphery; (2) on the currents induced in the neighbouring fibres, which again have a different issue, according to the position of the latter with respect to the point of the clearest vision; (3) on the reflex motor impulse to rotate the eye-ball, which upon every affection of a spot in the retina has for its consequence that the point of most distinct vision strives to occupy the place of the affected retinal point.

These three moments in conjunction give a different stamp to the similar sensations of every retinal fibre, to which Lotze, the author of this theory, gives the name of *local sign.* These differences also are partly conducted to the brain by the optic nerve, partly felt in the brain itself through the resistance, which the will must oppose to the reflex tendency to rotate the eye, in order to prevent it. It is now comprehensible how, in contrast to the sensations of smell, taste, and hearing, precisely the *sensations of sight and touch* can suggest to the mind the *intuition of space,* to wit, because with these the stimulus conveyed by every single primitive nerve-fibre *has its qualitative definiteness through a well-organised system of accompanying differences,* so that the vibrations excited in different nerve-fibres by similar external stimuli so far turn out different, that they can *not* blend in the mind *into a single* strengthened sensation, but yet so far resemble each other that the qualitatively similar portion can easily be perceived by the mind in the sensations produced through them. According to this we can only find the general law confirmed by the apparent exceptions, that identical vibrations of different parts of the brain blend into one sensation strengthened in degree; a law which both appears highly plausible *a priori,* and also empirically has not only no fact against it, but without it the phenomena of the lower senses already mentioned would be simply inexplicable. According to this law the vibrating molecule is perfectly indifferent to the mind, its *mode* of vibration alone

has an influence on the mind; and when we see certain parts of the body (the nerves), certain parts of the nervous system (the grey matter), certain parts of the brain especially appropriated to higher influences of a definite kind, we can only ascribe this to the circumstance that these parts are adapted, by reason of their molecular constitution, either exclusively or chiefly, to the production of that kind of vibrations, which alone or chiefly are capable of exerting these influences on the mind.

If we now look upon this law as established, and Lotze's theory of local signs (apart from the question whether those especially employed by him are exactly the right ones) as assured, we still do not get beyond the result, that, in sight or touch the mind receives from every primitive nerve-fibre, through the intervention of the brain, a special sensation, which is prevented by its individual character from blending with others, but yet is so like the others that it is an easy thing for the mind to perceive as such the similar foundation which they all possess. But we in no way get from this sum of *simultaneous qualitatively similar and yet different sensations* to their *distribution in space*, as presented in the field of vision and the cutaneous field of touch; we always stop short at the *qualitative* and *intensive quantitative* or *graduated* distinctions of the several sensations, and can in no way see how it is possible for the extensively quantitative or locally extended to be imported into sensation from the vibrations of the brain molecules, since it is not the position of the single molecule in the brain, but only the duration, form, &c., of its vibrations which has influence on sensation, and these moments do not contain the elements of extensive quantity, which might stand in some relation or other to the extensive quantity of the retinal image. On the other hand, in virtue of the system of local signs, the extensive proximity and distance of the points of the retinal image from one another, or their actual contact, is

changed into greater or less qualitative differences of the corresponding sensations, or least difference; and, accordingly, a material is presented to the mind, which, if the latter spontaneously reconverts this system of qualitative differences into a system of local relations, now compels the mind with necessity to assign such a place to every sensation in the space-image as corresponds to its qualitative determinateness; so that there is no room for caprice in regard to the space-determinations of a figure given by a sum of qualitatively distinct elements of sensation, but the mind is necessarily compelled to reconstruct the same in the relations in which the image on the retina appears to the eye of an onlooker, in conformity with experience.

Wundt expresses the thoughts just presented as follows:—"The union offered by *colligation*" (aggregation, comprehension) "is a purely external one, in which the united sensations are *preserved as individual sensations.* But the *synthesis, in blending* these intimately united sensations by the preparatory process of colligation, produces a *third* element, which was *not yet* contained in the individual sensations as such. Synthesis is, therefore, the strictly *constructive* element in perception; it educes from the unrelated existing sensations something *new*, which undoubtedly *contains in itself* the sensations" (but now no longer like the mere colligation *as* connected *individual sensations*), "but yet is something quite *distinct* from the sensations." ("Beitr. z. Theorie d. Sinneswahr.," p. 443.) These generally valid propositions he makes more precise on the following page, in reference to the synthesis occurring in the formation of the spatial visual perception:—"Thus the synthesis in perception is *a creative activity*, in that it *constructs* space, but this creative activity is by no means a *free* one; but the impressions and the outer impulses co-operating in the synthesis necessarily *compel space to be reconstructed with complete fidelity.*"

That school of empiristic physiology, which endeavours

to represent as indispensable a construction (or, with reference to the retinal image, reconstruction) of space consequent on the given sense-impressions by a creative synthetic function of the mind, chiefly employs the artifice of evoking the visual space-perception by help of the sense of touch, and the tactile space-perception by help of the sense of sight. Now, it is doubtless correct, that both senses, in the finer elaboration of their space-perceptions, essentially support one another; still, it would be impossible that both together should create space, unless it were already concealed in each singly. Thus, experience shows that persons born blind can acquire and elaborate, even more finely than seeing persons, the space-perceptions of the sense of touch without help of vision, and that, on the other side, persons born blind who have been operated on, on obtaining their sight, before any attempt to bring the new visual perceptions into relation with the tactile perceptions familiar to them, apprehend at once the visual space of at least two dimensions.—In the next place, the opponents of the creative production of space attempt the same sophism within each of the two senses, in the relations between the field of sight *at rest* (or field of touch) on the one side, and the feelings *of movement* of the eyeball (or the tactile members) on the other. But now it is also here at once clear that, if either the quiescent field of vision or of touch, or the feeling of muscular movement, does not possess extension, no combination, however ingenious, of these non-spatial sensations can originate space-extension without the addition of a creative constructive synthesis. Even here, these "empirics" have empiricism against them; for although, in reference to the sense of touch, the experimental separation of tactile sensation and motor feeling has not yet been accomplished, yet the fact is established, that in persons born blind, who have been operated upon, the superficial extension of the visual impressions is given from

the first moment of seeing, and is by no means only gradually acquired by numerous attempts at combining the sensations of the optic nerve with the feelings of movement of the eyeball. But even supposing that it were true, that the union of passive sensation and feeling of movement offered sufficient material to the mind (in local signs) for the space-construction, yet, even then, a creative synthesis would still be required, because sensations with differences merely qualitative and intensive could never attain without it to an indivisible extensive perception. But as the feeling, excited by the vibrating molecules of the brain, can only be discriminated qualitatively and intensively (comp. p. 339), and in no case can any relations whatsoever exist between the space of their position or movement and the space of the image of perception (comp. 335, 336), the creative synthetic function must be a purely spiritual function of the Unconscious.

We may therefore say, in direct opposition to Schopenhauer, that the sole ground for the assumption of the a-priority of the space-intuition is the impossibility of conceiving the same to have arisen by mere brain-function. If Schopenhauer were right, that space, as a form of intuition, is merely a predisposition in the organisation of the brain, which reacts on the stimulus of visual or tactile sensations in the manner peculiar to it, this cerebral predisposition might be explained according to the biological theory of descent by a transmission confirmed and perfected from generation to generation, only the genesis of the space-intuition in the lowest animals and vegetable animals (a far greater marvel than the same phenomenon in human consciousness), and the gradual expansion of this original germ being left to the direct action of the Unconscious. A predisposition for the more many-sided and finer development of the space-producing sensation, augmented by transmission, I, too, assume in the brain; but this only concerns the material

which excites the unconscious mind to the position of space, and determines the *How* of the space-intuition in the individual—in no case can it relieve the mind of the spontaneous act of giving a space-extension to the qualitatively ordered material, *i.e.*, the spontaneous reconstruction of space, but only *facilitate* it and *enrich its content*. We have now got to understand, I think, how it happens that only the visual and tactile senses, but not the other senses, can evoke the space-intuition; we have also comprehended the causal connection, whereby the mind is compelled to reconstruct just those space-relations which correspond to the objective space-relations in the retina or tactile retina; but why the mind *at all* converts the sum of qualitatively distinct feelings into an extensive space-image, for that we cannot see any reason in the physiological process; we are obliged even to question whether such exists, and can admit only a teleological reason, because through this marvellous process alone does the mind procure a basis for the cognition of an external world, whereas, without the space-intuition, it could never go beyond itself.

Ad. III. If we perceive this aim to be the sole reason, we must look upon the process in question itself as an instinctive action, as a purposive activity without purposive consciousness. We have accordingly again arrived at the sphere of the Unconscious, and must recognise the position of space in the perception of the individual consciousness (just as the position of space in creation of the real world), as an action of the *Unconscious*, since this process is by so much anterior to the possibility of any consciousness that it can never be looked upon as anything conscious. Kant, however, has nowhere so expressed himself, and considering the usual clearness and fearlessness of this great thinker, one must conclude that he never distinctly realised the complete unconsciousness of this same process. From this defect of his exposition arose, however, the opposition of sober common sense

to his doctrine, which knew that Space was *given* as a fact independent of the individual consciousness, and, indeed, in the space-relations from which only a protracted effort of abstraction detached the concept of Space, which last of all the negation of limit determined as infinite, whilst, according to Kant, the one infinite space stands as the original product of thought, in virtue of which spatial relations alone become possible. In all this, then, common sense was right, and Kant wrong, but in one point, and that the *chief*, Kant was right, that the form of space does not stalk into the mind from outside by means of physiological processes, but is spontaneously produced by it. But whereas Kant looks upon Space as an almost accidental form of sensibility due to the organisation of our nature, which might have been altogether different, and which has no prototype beyond subjectivity, we assert that Space has been given us as a real form of existence, so that the Unconscious formally performs one and the same function, when there planning in its unconscious representation the plurality of individuals to be created in space-relations, in order thereby to give to the will a spatially-realisable content, or here extending the sensations given in qualitatively-ordered series (mathematical dimensions) into the spatial intuition. Contingency and caprice would now have to be sought merely in a possible *deviation* from the path once entered upon, not in the *carrying out* of the form of individuation of space adopted once for all for this world (whether from logical necessity or from choice).

Ad. IV. Time has so much analogy with Space as a form of Thought and Being that they have ever been treated of together, and a thinker has always held similar opinions concerning both. This circumstance also tempted Kant to subject them to a common treatment in his "Transcendental Æsthetic." Yet, the differences between Space and Time, familiar to everybody, are important enough to call for a difference of treatment. If Time

were not directly transferable from the physiological process into the perception, it *would*, without doubt, be just as independently produced by the mind as Space. Perception, however, does not require this; for when we assumed that the mind reacts with a definite sensation on cerebral vibrations of a definite form, it was already implied that, if the stimulus is repeated, the reaction is also repeated, whether the stimuli follow one another in constant unbroken order, or intermittently. From this it further follows that sensation must last as long as these forms of the vibrations last, and another sensation only follows with change of the mode of vibration, for which, again, another is substituted after a certain interval. But the succession of unlike or diverse sensations is hereby immediately given without our needing to have recourse, as in the case of Space, to a spontaneous instinctive creation of the mind, no matter whether the affair is conceived materialistically or spiritualistically, for in both cases the objective succession of vibrations is translated into a subjective succession of sensations.

On the other hand, one might seem to be able to sustain the assertion that Time is not immediately imported into perception from the cerebral vibrations, by appealing to the fact that we regard every single feeling as a momentary, consequently timeless reaction of the mind, in which case certainly from a series of such momentary timeless psychical acts no temporal perception could directly arise, since the intervals between these moments would be absolutely void, and consequently could not be estimated. On closer examination the impossibility is immediately apparent; for only two cases are possible if sensation is to be something instantaneous. Either it springs from the *momentary* state of the brain, or it occurs only at the *close* of a certain period of cerebral movement. The former is intrinsically impossible, for the *moment* contains *no movement*, consequently nothing that can act upon the mind; the latter, however, may just as easily

lead to absurdity, because the reason for the mind reacting with sensation just after a *definite* period of time and not before and not after, while the movement calmly continues in the same manner, is by no means evident. If one arbitrarily chose to assume a complete period of oscillation as this time, it is not clear where the oscillation begins and ends, the starting-point being something arbitrarily chosen by us; or it is not obvious why a semi-oscillation, or a quarter or other smaller portion, should not accomplish the same, since, indeed, the *law of the whole vibration* is completely contained in the smallest portion of the whole vibration. As the *conceivably smallest portion* already contains the law of the whole vibration, it, too, must *contribute* its quota, and thus we come again to the *continuity* of sensation. That these differentials of sensation, so to speak, do not become conscious—that rather a not inconsiderable fragment of a second is requisite before a sensation can be individually taken note of by consciousness as a definite integral of these differential effects—might, perhaps, be due to the circumstance—firstly, that a change in the form of vibration which produces change of sensation is physically not to be comprehended from the fragment of a vibration, not even after a single entire vibration, but after several vibrations, by gradual passage of one form of vibration into another; and, secondly, that, as in a string caused to move sympathetically by a resonant note, every single vibration taken alone accomplishes too little, and that only the effects of many similar vibrations gradually added can gain a perceptible influence, which rises above the threshold of stimulation (see Introductory I. c., p. 34 ff.) This temporal addition, combined with the spatial addition of the effects of many molecules simultaneously vibrating in the same manner, makes it comprehensible how movements so minute as those in the brain call forth in the mind such powerful impressions, as, *e.g.*, a cannon-shot or thunder-clap.

We have now reviewed the four points above indicated, and I hope to have herewith not unessentially contributed to an understanding between philosophy and physical science, between which a wide gulf has yawned since the time of Kant. Our result is this: Space and Time are forms both of Being and of (conscious) Thought. Time is immediately translated into sensation from being, from the vibrations in the brain, because it is contained in the form of the *single* cerebral molecular vibration in the same way as in the external impulse. Space, as form of perception, must be created by an act of the Unconscious, because neither the space-relations of the *single* cerebral molecular vibration, nor the space-relations of the different vibrating parts of the brain, have any similarity or direct relation to the spatial figures and the spatial relations of position either of the real things or of the objects presented; but the spatial determinations of perceptions are probably governed by the system of local signs in the senses of Sight and Touch. Determinations of time, as well as of space, accordingly, are presented to consciousness as something ready-formed, given, are thus also rightly accepted as *empirical facts*, since consciousness has no idea of the producing processes of the same. From these given concrete determinations of Space and Time more general ones are afterwards abstracted, and the concepts Space and Time are gained as final abstractions, to which *as subjective ideas* infinity is justly ascribed as a negative predicate, because no conditions exist in the *subject* to place a limit to the possible extension of these ideas.

Having in this way made sure of the origin of the determinations of space and time as the foundation of all perceptions, we must return to the question of the connection of cerebral vibration and sensation—to the question, why the mind reacts on this form of vibration with this particular sensation. That there prevails here a perfect regularity we cannot doubt, considering the general

uniformity of Nature. We see the same sensations always follow with the same individual on the same external stimuli unless a demonstrable change of the bodily disposition takes place, which must, of course, announce itself in modified cerebral vibrations. That also in different individuals, so far as there is bodily agreement, the same stimuli call forth similar sensations, it is true we can never directly establish; but as all demonstrable variations certainly depend on varying structure of the sense-organs and nerves, we have no ground to suppose in this point an exception to the general uniformity of Nature, and accordingly assume that like cerebral vibrations call forth in all individuals like sensations. As this regular causal connection between this form of vibration and this sensation is in itself not more wonderful than any other incomprehensible uniform causal connection in the material world, *e.g.*, electricity and heat, is tolerably clear. On the other side, however, we incline without much hesitation to the opinion, that here, as there, causal links are present, which refer the hitherto existing complication of these events to simple laws, whose manifold interweaving brings to pass the majority of observed phenomena. Accordingly, if we cannot bring ourselves to stop at the result thus gained as a final one, but must suppose in these processes different connected links, yet this much is clear, that, so far as they belong to the psychical domain, they must exclusively belong to the province of the Unconscious. It is thus an unconscious process by which the acid appears to us sour, sugar sweet, this light red, that blue, these aerial vibrations as the note A, those as C. This is all that can be said about the origin of the quality of sensation, so far as our present knowledge extends.

With all this qualitative, intensively and extensively quantitative determination of sensation, we can, however never get beyond the sphere of the subject. For the sense of sight represents locally extended images superficially,

but without any determination with respect to the third dimension, so that the area lies, so far, purely *within* the mind—is purely subjective; so that the mind is not at all aware of the eye as organ of vision, thus knows the visual image neither before the eye nor in the eye, but merely possesses it internally, just as a faint idea of memory can only be conceived in the interior space of the mind, and without reference to external space. Similarly is it with the perceptions of the sense of touch. Here, too, there is only superficial extension, which corresponds to the surface of the body, only much vaguer than in vision. Here only by means of the simultaneity of the same perception at several places, united with certain feelings of muscular movement, do experiences occur, with whose help the mind can effect the fixation of the tactile perceptions on the epidermis by other processes, so that these can now be fixed in respect to the third dimension, as it were. Many physiologists assert, indeed, that this is immediately the case, according to the law of the eccentric phenomenon, and I shall not dispute it; this much is settled, that when this point is reached, when the internal sensations are so fixed in respect of the third dimension that they coincide objectively with the epidermis of the body, and, according to my view, in the case of the eye with the retina—that then it is still by no means apparent how the step is to be taken outwards from the subjective *in virtue of perception or of conscious thought.* For perception, at the most, never points beyond the limit of one's own body—in my view even remaining within the mind without pointing to one's own body at all. No conscious process of thought developing itself by means of the preceding experiences, moreover, leads to the supposition of an external object; here, again, instinct, or the Unconscious, must lend a helping hand in order to fulfil the purpose of perception, the cognition of the external world. Accordingly, the animal and the child instinc-

tively projects its sense-perceptions as objects outside itself; and, accordingly, to this day, every uninstructed human being thinks he perceives the things themselves, because his perceptions, with the determination of externality, *instinctively* become objects to him. Thus only is it possible that the world of *objects* stands there ready for any being, without the idea of the *subject* occurring to it, whilst in conscious thought subject and object must necessarily spring simultaneously from the ideational process. It is, therefore, wrong to posit the concept of causality as mediator for a conscious segregation of the object, for objects are there long before the causal concept has arisen; and even were this not the case, yet, *even then*, the subject must be simultaneously gained with the object. Undoubtedly, from the *philosophic* point of view, causality is the sole means of getting beyond the mere ideational process to the subject and object; undoubtedly for the consciousness of the cultivated understanding, the object is only contained in perception as *its external cause;* undoubtedly the unconscious process, which lies at the bottom of the first apperception of the object, may be analogous to this philosophic conscious process,—thus much is certain, that the process, as whose result the external object confronts consciousness ready formed, is a thoroughly unconscious one, and consequently, if causality plays a part in it—which for the rest we can never directly determine,—it can yet by no means be said, as by Schopenhauer, that *the* a priori *given concept of causality produces the external object,* because, in this mode of expression, the action must be conceived as a conscious one, which it decidedly cannot be, because it is formed much later, and, moreover, at first from reciprocal relations of the *already formed* objects.

Having got so far in this way as to see in perceptions external objects, the next point to be considered is the *elaboration* of the perceptions, *e.g.*, in vision the sight of distance reckoned from the eye, single vision with two eyes,

sight of the third dimension in bodies, &c., and what corresponds thereto in other senses, as is discussed at length in so many manuals of physiology, psychology, &c. The processes which bring about this closer understanding, belong partly, indeed, to consciousness; in greater part, however, they fall into the domain of the Unconscious (comp. Wundt "Beiträge zur Theorie der Sinneswahrnehmung," as well as the passages cited above, p. 39). "As the formation of perception by the single eye depends upon a series of psychical processes of an unconscious kind, so also the formation of binocular perception is nothing but an unconscious process of inference. . . . Thus it is not merely the special perception of depth to which the binocular act of vision necessarily leads, but it is, in addition, the representation of reflection and lustre, which arises therefrom in an altogether corresponding uniform manner" (Wundt, pp. 373, 374). "They (the unconscious psychical processes) are not merely those which form perceptions out of the unrelated sensations, but those also which bind the more immediate and simple perceptions themselves again into more compound ones, and thus bring *order and system* into the possession of our mind, before with consciousness that *light* is brought into this possession, which first teaches us ourselves to know it" (*ibid.* 375).

We might easily deceive ourselves concerning this relation, if we only reflected on the tardiness with which the *human* child attains to the full mastery of sense-perception. But if more exact investigation enables us here to perceive without difficulty, how small the elaboration of conscious thought is with children at the time, when they already possess this understanding of perception in full measure, the unconsciousness of all the needful processes among *animals* is evident at the first glance. The certainty with which these move soon after their birth, the propriety with which they comport themselves with respect to the outer world, would be impossible, if they did not instinctively possess this understanding of their sense-perceptions

If, as should properly be done, we include under sensuous perception in the wider sense this full comprehension of the sense-impressions, we see that the coming to pass of sensuous perception, which forms the foundation of all conscious mental activity, is dependent on a whole series of unconscious processes, without which aids on the part of instinct Man and Animal would perish helplessly, since they would lack the means of perceiving and of making use of the outer world.

IX.

THE UNCONSCIOUS IN MYSTICISM.

THE word "mystical" is in everybody's mouth; everybody knows the names of celebrated mystics, everybody knows examples of the mystical. And yet how few understand the word, whose signification itself is mystical, and therefore can only be rightly comprehended by him who has within him a mystical vein, however weak it be. Let us try to get at the essence of the matter, by reviewing the various leading phenomena presented in the mysticism of different times and individuals.

We find among the largest number of mystics a turning away from active life and a falling back upon quietistic contemplation, even a striving after mental and bodily annihilation. This cannot, however, express the essence of mysticism; for the world's greatest mystic, Jacob Böhme, managed his household affairs in a methodical fashion, worked hard, and educated his children. Other mystics plunged so deeply into practical affairs as to come forward in the character of world-reformers; others professed theurgy and magic, or practical medicine, and undertook journeys for scientific purposes.—Another series of phenomena, with higher degrees of mysticism, are bodily fits, as convulsions, epilepsies, ecstasies, imaginations and fixed ideas of hysterical women and hypochondriacal men, visions of ecstatic or spontaneously-somnambulistic persons. All these wear so much the character of bodily disease, that the essence of mysticism certainly cannot

be looked for in them, although they are for the most part intentionally produced by voluntary fasting, asceticism, and continued concentration of the fancy on one point. Those, who in the history of mysticism evoked such repulsive phenomena, we should at the present day commiserate in mad-houses, but in their own time they were adored as prophets and persecuted and slain as martyrs; such unfortunates, *e.g.*, as took themselves to be Christ (Isaiah Stiefel, 1600) or God the Father himself. Nevertheless, it might be said the visions and ecstasies pass gradually into those purer and higher forms to which history owes so much; granted, certainly,—only this variable element must not be claimed as the essence of mysticism.—A third form is asceticism. It is a mad frenzy or a morbid delight when it is not embraced as an ethical system, which, however, is the case with Indian, Neo-Persian, and Christian penitents. Even then this is not necessarily mysticism, since, on the one hand, Schopenhauer has given us the proof that a person may be a clear thinker and yet regard asceticism as the only correct system; and, on the other hand, mysticism is just as compatible with the most unbridled, inordinate longing after enjoyments as with the strictest asceticism. A fourth series of phenomena in the history of mysticism are the wonders of the prophets, saints, and magicians occurring in every age. All that remains after tolerably strict criticism of these reports reduces itself to operations of healing, which may be comprehended partly as simply therapeutic, partly as conscious or unconscious magnetism, partly as sympathetic action, and admitted into the series of natural laws, if the magical-sympathetic action of mere will be allowed to pass as natural law. As long as this is refused, the latter certainly remains intrinsically mystical; but as soon as one gets accustomed to the phenomenon, it is not more mystical than the operation of any other natural law, of which we can make nothing at all, and yet do not on that account call mystical.

Hitherto we have spoken of how mystics have acted and lived, we have still to mention in what way they have spoken and written. In the first place, we are struck by the prevailingly figurative mode of expression, sometimes plain and simple, but more often high-sounding rant, not seldom accompanied by an equal extravagance in the matter as in the form. This depends partly on the nations and times to which the particular mystics belong; but, as we meet with the same phenomenon among poets and other writers, we cannot find therein the sure mark of the mystic. Further, we see in mystical writings, on the one hand, an exuberance of allegory, a love of far-fetched exegesis (as of the Bible, the Koran, and other writings or legends), or a mass of formularies (drawn from the Jewish. Mohammedan, and Christian cultus); on the other side, a schematism of an unscientific philosophy of Nature, full of fantastic and fanciful analogies (Albertus Magnus, Parcelesus, and others in the Middle Ages; Schelling, Oken, Steffens, Hegel, in more recent times). In these two phenomena likewise, essentially alike, and only different in their subject, we cannot find the character of the mystical. We see therein only the characteristic tendency of the human mind to systematise its conceptions, led astray by ignorance or disregard of the material and the principles of the natural sciences—playing at building card-houses, which the after-comer, who builds other card-houses, often does not give himself the trouble of blowing over, but which rather collapse of themselves, although not without having previously imposed on many another child. A characteristic, too, to which it has been often believed one may hold, is incomprehensibility and obscurity of style, because it is tolerably common to all mystical writings. However, it is not to be forgotten, firstly, that very few mystics have reduced their thoughts to writing, many have not even spoken, or done nothing more than narrate their visions; and secondly, that very many other writings are incom-

prehensible and obscure, to which neither their authors nor other people would apply the epithet mystical, for obscurity of expression may arise from obscurity of thought, deficient mastery of the material, awkwardness of style, and many other causes.

Consequently, none of the phenomena hitherto considered are fitted to reveal the nature of the mystical; but any one of them may, perhaps, serve to set off a mystical background, but is then only a dress casually put on by mysticism, and may just as well at another time have nothing at all to do with mysticism. The question now, then, is with respect to the common core and centre of all these phenomena in the cases in which we regard them as drapery of a mystical background. Any one would go quite astray who should regard Religion as this common kernel. Religion, as naive belief in revelation, is not in the least mystical, for what has become *manifest* to me through an authority recognised by me as perfectly valid, what can there be at all mystical in that, so long as I am absolutely content with this *external* revelation? And no religion asks more. But, further, it is also easy to see that there is a mysticism of irreligious superstition (*e.g.* black magic), or a mysticism of self-deification, which sets all good and bad gods at defiance, or a mysticism of irreligious philosophy, although experience shows that the latter, at any rate, prefers to make an external alliance with positive religion (*e.g.* Neoplatonism). In all this we should not fail to perceive that Religion is the ground and soil on which mysticism springs up most easily and luxuriantly; but it is by no means its *only* hot-bed. Mysticism is rather a creeping plant, which grows up exuberantly on any support, and can agree equally well with the extremest opposites. Arrogance and humility, love of power and endurance, egoism and self-renunciation, continence and sensual excess, self-castigation and inordinate love of enjoyments, solitude and sociality, contempt for the world and vanity, quietism and active life,

nihilism and world-reformation, piety and impiety, illumination and superstition, originality and brutal stupidity, —all are equally compatible with mysticism.

Accordingly we have got so far as to see in all such extremes, in all the above-mentioned phenomena historically presented among the mystics, not the *essence* of mysticism, but *excrescences*, which have been produced partly by the spirit of the times and national character; partly by individual morbid disposition: partly by perverted religious, moral, and practical principles; partly by the infectious example of mental derangement; partly through dissatisfaction with the pressure of rude times, which, in secular life, had nothing at all enticing to offer, but could only deter the aspirant; partly by the danger subsequently to be mentioned of soaring too high inherent in the final goal of mysticism itself; partly by a concatenation of all sorts of causes resulting from the foregoing and other circumstances.

This negative examination appeared to me indispensable in order to clear up the notion of the mystical, which for most people is compounded of a *total of these morbid outgrowths* of mysticism, and thereby prevents the recognition of mysticism in its purer forms of manifestation. If now we once more return to consider the core of all these phenomena of genuine mysticism, this much will be evident, that it must be deeply founded in the inmost nature of man (if, like artistic tendencies, it is not developed in every one, at any rate uniformly in every one, or in the same directions); for with more or less diffusion it has accompanied the history of civilisation from early prehistoric times to the present day. It has doubtless changed its character with the spirit of the times, but no advance of civilisation has ever been able to repress it; it has maintained itself just as unconquerable in presence of the infidelity of materialism as against the terrors of the Inquisition. But mysticism has also performed priceless civilising *services* for the human race. Without

the mysticism of Neo-pythagoreanism, the Johannean Christianity would never have arisen; without the mysticism of the Middle Ages, the spirit of Christianity would have been submerged in Catholic idolatry and scholastic formalism; without the mysticism of the persecuted heretical communities from the beginning of the eleventh century, which, in spite of all suppressions, ever sprang up again with renewed energy under another name, the blessings of the Reformation would never have dispelled the darker shades of the Middle Age and opened the portals of the new era. Without mysticism in the mind of the German people, and among the heroes of modern German poetry and philosophy, we should have been so completely inundated by the shallow drifting sand of the French materialism in the last century, that we might not have got our heads free again for who knows how long. As for the human race as a whole, so also for the *individual*. So long as it keeps free from sickly and rank outgrowths, mysticism is of inestimable worth. For we, in fact, see that all mystics have felt exceedingly happy in developing their mystical tendencies, and have cheerfully endured all sorts of privation and sacrifice in order to remain faithful to their bent. One has only to think of Jacob Böhme and the inexpressible cheerfulness which accompanied him through all his trials, which yet certainly arose from a pure source, and neither withdrew him from his civil duties nor was troubled by foolish self-tormentings. Think of the mystical saints of antiquity, as Pythagoras, Plotinus, Porphyry, &c., who certainly practised extreme moderation and restraint, but no self-tormentings. Genuine mysticism is then something deeply founded in the inmost essence of man, *in itself* healthy, if also easily inclining to morbid growths, and of high value both for the individual and for humanity at large.

But what is it in fine? If we think away all that is worthless in the phenomenon, there will remain feeling, thought, and will, and indeed the content of each of the

three will also be able to occur non-mystically, namely, of thought and feeling in philosophy and religion, of will as conscious magical will-action (only *one single* content of feeling making an exception, because it can ever be *only* mystically produced, as we shall immediately see). But if now in all other cases it is *not the matter* which contains the specifically mystical element, it must be the *special way* in which the matter comes into consciousness and is in consciousness; and upon this we will first hear some mystics, when, after the previous explanations, we shall not be surprised to find names which are not usually reckoned among the mystics, just because these represent mysticism most free from disturbing accessories.

All founders of religion, and prophets, have declared that they have either received their wisdom personally from God, or, in composing their works, delivering their speeches, and doing their wonders, have been inspired by the Divine Spirit, which most of the higher religions have made an article of faith. It has also been believed of the later saints who have introduced any new doctrine or mode of life and repentance, that not the human but the Divine Spirit taught them, and they themselves believed it. Fuller information is given us by Jacob Böhme:—"I say before God . . . that I do not myself know how it happens to me that, without having the impelling will, I do not even know what I should write. For when I write the Spirit dictates it to me in great, wonderful knowledge, that I often do not know whether I am in my spirit in this world, and rejoice exceedingly, since then the constant and certain knowledge is given to me, and the more I seek the more I find, and always more deeply, that I also often think my sinful person too small and unworthy to teach such secrets, when the Spirit spreads my banner and says, 'See, thou shalt live for ever therein and be crowned, why art thou afraid?'" In the same way, in the "Aurora," he gives his reader the advice "that he should ask of God His Holy Spirit. For without the

illumination of the same thou wilt not understand these secrets, for the mind of man is a fast lock, that must first be opened; and that no man can do, for the Holy Spirit is the only key to it." As little as he holds it possible for another reader, could he himself understand his own writings if the Spirit should abandon him.—We go further and find that the Quakers set up the principle of subordinating the institution of the school, human wisdom, and the written word, and trusting solely to an *inner light.*—Bernhard of Clairvaux says: "Faith is a sure fore-feeling of a not yet wholly unveiled truth grasped by the will, and is based on authority or revelation; the (inner) intuition (*contemplatio*), on the contrary, is the certain and at the same time manifest cognition of the invisible." This is carried further by his school (Richard and Hugo of St. Victor), by which inner revelation is designated the deeper mystical knowledge, which becomes the portion only of the elect, as illumination of reason by the Spirit, as supernatural power of knowledge, as inner immediate intuition, which is exalted above reason.—

The champion of modern mysticism against rationalistic enlightenment is Hamann. He desires to know the content of the outer divine revelation vitally regenerated from the soil of his own spirit, and to find the solution of all contradictions in self-evident faith, which comes to him from feeling, from the immediate revelation of truth. What he shadowed forth Jacobi elaborated. He says (in various places): "Conviction by means of proofs is a second-hand certainty, rests on comparison, and can never be perfectly sure and complete. Now if every acceptation of truth which does not spring from rational grounds is faith, conviction from grounds of reason must itself come from faith, and receive its force solely from it.—He who knows must in the last resort depend on sensation or a feeling of the mind.—As there is a sensuous intuition through sense, so there is also a rational one through reason.—Each in its province is the final and uncondition-

ally valid.—Reason, like the faculty of the feelings, is the incorporeal organ for the perceptions of the super-sensible. Rational intuition, although given in exalted feelings, is yet truly objective.—Without the positive rational feeling of a higher than the world of the senses, the understanding could never transgress the sphere of the conditioned."

Fichte and Schelling accepted these views, whilst Kant in his categorical imperative only made use of them under the guise of formal knowledge of the understanding. Fichte says in the Introductory Lectures to the Theory of Science, "This doctrine presupposes an entirely new inner sense-organ through which a new world is given, that does not at all exist for the ordinary man. It is not exactly excogitating and creating a novelty, a something not already given, but the bringing together and reducing to unity of the given *by means of a new and yet to be developed sense*." This "Rational Faith" of Jacobi receives from Schelling its most appropriate name—intellectual intuition—which is set up by the latter as the indispensable organ of our transcendental philosophising, as the principle of all demonstration, and as the unprovable, self-evident ground of all evidence, in a word, as the absolute act of knowledge,—as a kind of cognition which must always remain incomprehensible from the conscious empirical point of view, because it has not like it an *object*, because it *cannot at all appear in consciousness*, but falls outside of it (comp. Schelling, I., 1, pp. 181, 182). Thus have we followed this mode of attaining to the consciousness of a content from the crude figurative expression of a personal divine communication down to Schelling's intellectual intuition, and have herein found that which makes a feeling or a thought mystical in form.

If we ask how we have to conceive this immediate knowledge through intellectual intuition, Fichte and Schelling give us answers on this point also. Fichte says, in the "Facts of Consciousness":—"Man has in general nothing but experience, and he comes by everything

whereto he attains only through experience, through life itself. In the theory of the sciences, too, as the absolute highest potency, above which no consciousness can rise, nothing can at all occur which does not lie in actual consciousness or in experience, in the highest sense of the term." And Schelling corroborates ("Works," ii. vol. i. p. 326):—"For, to be sure, there are also those who speak of thought as an antithesis to all experience, *as if thought itself were not certainly also experience!*" Immediate or mystical knowledge is here very well included in the notion, *experience*, because it *is previously found* "in actual consciousness" *as given*, without the will being able to make any change in it. No matter whether this datum is given from within or from without, conscious will has, in either case, nothing to do with it, and consciousness, to which its unconscious background is just as unconscious, must accordingly accept its inspirations as something extraneous, whence arises the belief in divine or demoniac inspiration of the intellectual intuition in earlier times, and among those untrained in philosophy. Since consciousness knows that it has not derived its knowledge directly or indirectly from sense-perception, thereby being pre-eminently *immediate knowledge*, it can only have arisen through inspiration from the Unconscious, and we have accordingly comprehended the essence of the mystical—*as the filling of consciousness with a content (feeling, thought, desire) through involuntary emergence of the same from the Unconscious.*

We must accordingly claim clairvoyance and presentiment as essentially mystical—a subdivision of mysticism, so far as it has reference to thought,—and shall not be able to avoid finding something mystical also in every instinct, namely, so far as the unconscious clairvoyance of instinct appears in consciousness as presentiment, faith, or certainty. I shall further meet with assent after these considerations and those of the earlier chapters,

if, even in the most ordinary psychological processes, I characterise those thoughts and feelings as mystical in form, which owe their origin to an immediate intrusion of the Unconscious, thus before all the æsthetic feeling in contemplation and production, the origin of sensuous perception and the unconscious processes in thinking, feeling, and willing generally. This perfectly justifiable application meets with resistance only from vulgar prejudice, which sees marvel and mystery only in the extraordinary, but finds nothing obscure or marvellous in the things of every-day life—only because there is nothing rare and unusual in it. Certainly, one does not call a man, who only carries about in himself these ever-recurring mysteries, *a mystic*; for if this word is to mean more than human being, it must be reserved for the men who participate in the rarer phenomena of mysticism, namely, such inspirations of the Unconscious as go beyond the common need of the individual or of the race, *e.g.*, clairvoyants, through spontaneous somnambulism or natural disposition, or persons with a darker but frequently active power of presentiment (Socrates' "Daimonion"). I should also not object to the designating as mystics, in the province of their art, all eminent art-geniuses, who owe their productions predominantly to inspirations of their genius, and not to the work of their consciousness, be they in all other concerns of life as clear-headed as possible (*e.g.*, Phidias, Æschylus, Raphael, Beethoven); and he alone could take offence who has himself so little of the mystical vein in him, that the incommensurability of the genuine work of art with any rationalistic standard, as well as the infinity of its content, in respect of all attempts at definition, has not yet at all entered into his consciousness.

In philosophy I should like to extend the notion still further, and call every original philosopher a mystic, so far as he is truly original; for in the history of philosophy no high thought has ever been brought to

light by laborious conscious trial and induction, but has always been apprehended by the glance of genius, and then elaborated by the understanding. Add to that, that philosophy essentially deals with a theme which is most intimately connected with the one feeling *only* to be *mystically* apprehended, namely, the *relation of the individual to the Absolute.* All that has gone before only concerned such matter of consciousness as can or could arise in no other way, thus is here only called mystical, because the *form of its origin* is mystical; but now we come to an item of consciousness, which, in its inmost character, is *only* to be apprehended mystically, which thus also, *materially,* may be called mystical; and a human being who can produce this mystical content will have to be called pre-eminently a mystic.

To wit, *conscious thought* can comprehend the identity of the individual with the Absolute by a rational method, as we too have found ourselves on the way to this goal in our inquiry; but the Ego and the Absolute and their identity stand before it as three *abstractions,* whose *union* in the *judgment* is made probable, it is true, through the preceding proofs, yet an *immediate feeling of this identity* is not attained by it. The *authoritative belief* in an external revelation may credulously repeat the dogma of such a unity—the living feeling of the same cannot be engrafted or thrust on the mind from without, it can only spring up in the mind of the believer himself; in a word, it is to be attained neither by philosophy nor external revelation, but only mystically, by one with equal mystical proclivities, the more easily, indeed, the more perfect and pure are the philosophical notions or religious ideas already possessed. Therefore this feeling is the content of mysticism, *κατ' ἐξοχὴν,* because it finds its existence *only* in it, and, at the same time, the *highest* and *ultimate,* if also, as we have seen before, by no means the only aim of all those who have devoted their lives to mysticism. Nay, we may even go

so far as to assert that the production of a certain degree of this mystical feeling, and the enjoyment lurking in it, is the sole *inner* aim of all religion, and that it is, therefore, not incorrect, if less significative, to apply the name *religious* feeling to it.

Further, if the highest blessedness lurks in this feeling for its possessor, as is confirmed by the experience of all mystics, the transition is manifestly easy to the endeavour to heighten this feeling in degree, by seeking to make the union between the Ego and the Absolute ever closer and more intimate. But it is also not difficult to see that we have here arrived at the point previously indicated, where mysticism spontaneously degenerates into the morbid, by overshooting its mark. Undoubtedly we must elevate ourselves for this purpose a little above the standpoint hitherto attained in our investigations. The unity, namely of the Absolute and the individual, whose individuality or egoity is given through consciousness, thus, in other words, the unity of the unconscious and conscious, is once for all given, inseparable and indestructible, except by destruction of the individual; wherefore, however, every attempt to make this unity more close than it is, is so absurd and useless. The way which, historically, has almost always been taken, is that of the annihilation of consciousness—the endeavour to let the individual perish in the Absolute. This, however, contains a great error, as if, when the goal of annihilation of consciousness was reached, the individual still existed; the Ego at once desires to be annihilated, and to subsist in order to enjoy this annihilation. Consequently this goal has hitherto been always only imperfectly attained on both sides, although the accounts of the mystics enable us to perceive that many on this path have attained an admirable height, or rather depth, so that I shall adduce a few illustrations. (True self-annihilation is, of course, only suicide; but here the contradiction is too patent for it to have often been the result of mysticism.)

Michael Molinos, the father of Quietism, says, among the eight-and-sixty propositions of his celebrated "Spiritual Guide," condemned by Innocent VI.:—"Man must annihilate his powers, and the soul annihilates itself when it ceases to effect anything. And if the soul has attained the mystical death, it can—having now returned to its fundamental cause, to God—will nothing further than what God wills." The mystics of the earlier part of the Middle Ages distinguish in different ways a greater or smaller number of stages; the last is always absorption, the same state as we already find described among the Buddhist gymnosophists, the modern Persian Ssufis, and the Hesychasts or quietists or Omphalists of Mount Athos. It is said that in absorption the human being is no longer aware of his body, perceives nothing external at all, nay not even his inner self. "To think of absorption is already to emerge from absorption." To die to one's ownness, to completely annihilate personality, and to let one's self be lost in the divine essence, is expressly demanded. Nay, even the essential forms of consciousness, space, and time must disappear, as we gather from a conversation of the prophet with Ssaid, where the latter says:—"Day and night have disappeared for me like a flash of lightning; I embraced at once eternity before and after the world; to those in such a state a hundred years and an hour are one and the same." All this is confirmed by the endeavour after identification with the Absolute, through annihilation of the individual consciousness.

The other equally conceivable way to the enhancement of unity would be the endeavour to let the Absolute perish in the Ego; this way also has been tried by high-soaring minds, but it is so daring, and the goal and the power and means at the command of the individual so disproportionate, that we need take no further account of it.

From mystics proceeded the religious revelations, from

mystics philosophy; mysticism is the common source of both. It is true that fear first created gods on earth, so far as it was fear, which first stirred up the fancy of mystical brains, but *what* they created was their own, and fear had no part therein. But when the first gods were once there, they propagated among themselves, and fear lost its function. Accordingly the old assertion so highly valued by theologians, of the god-consciousness dwelling in man is no fable, if there be also perfectly godless individuals and peoples, in whom it has never emerged; mysticism is Adam's scion, and *its* children are the ideas of the gods and their relation to man. How elevated and pure these ideas may have been even in quite early times in the esoteric doctrines of many peoples, is shown in the case of the Hindus, who have in effect implicitly possessed the whole history of philosophy, presenting in figurative and undeveloped form what we exhibit only too abstractly through only too many writers and volumes.

Thus I see in the whole history of philosophy nothing else than the conversion of a mystically-begotten content from the form of the image or the unproved assertion into that of the rational system, for which certainly often a new mystical production of single parts is required, which a later age finds already contained in the ancient writings.—It is naturally not wonderful, that from the moment when philosophy and religion get to be separated, they both deny their human-mystical origin; the former seeks to present its results as rationally acquired, the latter as external Divine revelation. For as long as the mystic abides by his results, without trying to give them a rational foundation, he is not yet philosopher, and this only becomes possible by his giving conscious reasoning its rights. But this he will not do until he prefers the latter to mysticism, and then he likes to renounce and forget the mystical source of his results, which will not be difficult for him, considering the obscurity of their mode

of origin. On the other hand, if the mystic thinks little of conscious reason, or naturally inclines to fanciful exposition, he will seek a pictorial-symbolical expression for his results, which of course can always be only an accidental and imperfect one. Now, as soon as he himself or his successors become incapable of grasping the idea lurking behind the symbols, and take those themselves for the truth, they cease again to be mystics and become religionists. As they themselves can neither mystically reproduce their symbols, nor are these rationally comprehensible, they must appeal to the authority of the founder for the truth of the same, and as human authority appears too small for such important affairs—possibly, too, the founder himself has already claimed to be recipient of divine communications—their truth is referred to the divine authority itself. Thus arise the moulds which shape the dogmatic content of religion. The more adequate are the symbols of the mystical Idea, the purer and sublimer is the religion; the more abstract and philosophical, however, must also the symbols be; the more inadequate and sensuous they are, the more does religion sink into superstitious idolatry and sacerdotal formalism. Now he who takes the symbols of religion again merely as symbols, and wishes to grasp the idea dwelling behind them, steps out of religion as such, which requires, and must require, literal belief in the symbols, and becomes again a mystic; and this is the usual way in which mysticism is formed, by clearer heads finding the historically given religion unsatisfactory, and desiring to grasp the profounder ideas which lurk behind its symbols. One sees now how closely related religion and mysticism are, and how they are yet somewhat different in principle; one sees also why an established church must always be hostile to mysticism.

If we now ask how it came to pass that mysticism, which brought to men the first revelations of the super-sensible, did not stop there, but became converted into philosophy

and religion, the reason of this is shown in the vagueness of the purely mystical result, which must necessarily strive to acquire a form. As little as the mystical is in itself communicable, so little is it comprehensible for the consciousness of the thinker himself; it is like everything unconscious — a definite content to consciousness only when it has entered the forms of sensibility, as light, clearness, vision, image, symbol, or abstract thought. Previously it is only absolutely indefinite feeling, *i.e.* consciousness experiences nothing but blessedness or unblessedness absolutely. If, now, the feeling first becomes definite in images or thoughts of a certain kind, there dwells in this image or thought alone for consciousness the content of the mystical result; and it is consequently no wonder that, if with the weakening of the mystical energy the inspirations fail, consciousness cleaves to these sensuous residua—least of all, when others do this, to whom only these residua, and not the feelings united therewith, can be imparted, not that undefined somewhat which tells the productive mystic that his images and thoughts are still always an incomplete expression of the super-sensual idea. But communication requires still more: the other party desires to have not merely the What of the mystical results, but also the Why, for the productive mystic receives, it is true, through the way in which he arrives at it, an immediate certainty, but whence is a third person to obtain conviction? Religion helps itself here with the surrogate of authoritative faith annihilating independent judgment; philosophy, however, tries rationally to prove what it has mystically received, and thereby to make the private property of the mystic the public property of thinking humanity. Only too frequently, as could not well be otherwise, considering the difficulty of the subject, these rational proofs are unsuccessful, in that they, apart from what is really incorrect in them, depend again themselves on suppositions, of the truth of which conviction can only be mystically ac-

quired. And thus it comes to pass that the different philosophical systems, however imposing they are to many, yet have only full probative force for the author and for some few who are able to reproduce mystically in themselves the underlying suppositions (*e.g.*, Spinoza's Substance, Fichte's Ego, Schelling's Subject-Object, Schopenhauer's Will), and that those philosophical systems, which rejoice in most adherents, are just the poorest of all and most unphilosophical (*e.g.*, Materialism and rationalistic Theism).

Were I now to name the man whom I regard as the flower of philosophical mysticism, I should pronounce the name of *Spinoza:* his starting-point, the mystical Substance, his ultimatum[1] the mystical love of God, in which God loves himself, and all else sun-clear, according to mathematical methods.

Certainly Spinoza did not think himself a mystic, but rather supposed he had proved everything so surely that all must see it; and yet his system, imposing as it is, has nothing convincing about it, and convinces so few, because one must first be convinced of Substance in Spinoza's sense, which only a mystic can, or a philosopher who at the close of his system has reached the same by another path, and then no longer needs Spinozism. Similarly is it, however, with all other systems, excepting the few which, like those of Leibnitz and the English, begin from below, but then also do not get far, and, properly speaking, are not to be called systems. The complete rational proof of the mystical results can only appear at the close of the history of philosophy, for the latter consists, as has been said, altogether in the search for this proof.

Finally, we must not omit to call attention to the risk of error which lies in mysticism, and which is so much

[1] By his third kind of knowledge (the intellectual intuition, comp. above, p. 22 Obs.), by which alone those fundamental ideas of his system can be grasped in an adequate manner, and with full conviction of certainty (comp. "Ethics," part v., Prop. 25, Prop. 36 Obs., Prop. 42 Prop.), Spinoza himself admits the mystical nature of these conceptions.

worse in this than in rational thought, because the latter has in itself, and in the co-operation of others, the control and hope of improvement, but the error which has crept in in mystical form is ineradicable. One must not thereby, however, conceive the matter as if the Unconscious imparted false inspirations, but it then imparts none at all, and consciousness simply takes the images of its uninspired fancy for inspirations of the Unconscious, because it longs for them.

It is just as difficult, to distinguish a genuine inspiration of the Unconscious in the waking state in a mystical mood from mere freaks of fancy, as a clairvoyant dream from an ordinary one; as in the latter case only the result, so in the former only the purity and inner worth of the result, can decide this question. But as true inspirations are always rare conditions, it is easy to see that among all, who ardently long for such mystical suggestions, very many self-deceptions must occur for one true inspiration; it is therefore not astonishing how much nonsense mysticism has brought to light, and that it must in consequence be extremely repugnant to every rational mind.

END OF VOL. I.

PHILOSOPHY OF THE UNCONSCIOUS.

X.

THE UNCONSCIOUS IN HISTORY.

NATURE and History, or the origin of organisms and the development of the human race, are two parallel problems. In both cases the question runs: particular contingency or universal necessity, dead causality or living conformity to an end, mere sport of atoms and individuals or a single plan and general superintendence? He who has decided the question with respect to Nature in favour of design will have no difficulty in doing the same in regard to history. The only thing likely to mislead in the latter case is the semblance of personal freedom. But I think I may confidently appeal to the general consensus of modern philosophers in respect to this matter of the freedom of the will, to the effect namely that an empirical freedom in any single act of volition in the sense of *unconditionality* is altogether out of the question, since, like every other natural phenomenon, it falls under the law of causality, and necessarily follows from the state of the man's mind at any given moment, and the motives which are acting upon him. Further, that if a claim be set up for a freedom of the will *outside* natural causality, this must *at best* be *sought* (I do not say, found) in the supersensible sphere (*mundus noumenon*), in Kant's intelligible character, but can in no case apply to the specific volitional act, since any

such act is always in time, consequently belongs to the sphere of the phenomenal world, and is accordingly subject to the law of causality, *i.e.*, necessity. This, and the reasons why we are liable to the illusion of a belief in the will's freedom, may be studied in Schopenhauer's essay "On the Freedom of the Will."

But suppose we even admitted the empirical freedom of the will, if we recognise a purposive evolution in history at all, this could only be the result of the freedom of individuals if the consciousness of the step next to be taken, in its full significance and in all its consequences, were possessed by every one freely co-operating in the historic movement, before he actively intervened.

Undoubtedly since the close of the last century we have been making approaches to that ideal state where the human race *consciously* accomplishes its destiny, but, save for a few superior minds, this is still a remote condition of things, and nobody will maintain that by far the larger part of the way already traversed has been conquered in this wise. For the aims of the individual are always selfish, each one seeks only to further his own well-being, and if this conduces to the welfare of the whole, the merit is certainly not his; the exceptions to this rule are so few that they are of no account in respect of the whole. But the wonderful part of the matter is, that even the mind, which wills the bad, works the good, that the results become, by combination of many different selfish purposes, quite other than what each individual had imagined, and that in the last resort they always conduce to the welfare of the whole, although often the advantage is somewhat remote, and centuries of retrogression seem to contradict it; this contradiction, however, is only apparent, for they serve the purpose of breaking the strength of an old system, that room may be made for a new and better one, or of allowing a vegetation to grow corrupt, in order that it may manure the ground for something fresh and fairer. Even thousands of years of stagnation on one spot of earth

should not mislead us, if only this phase of culture has fulfilled its appointed office, and if only at the same time the process of evolution goes forward at another place.

Just as little should we expect, as is often and unreasonably the case, that at one and the same place all the various branches or tendencies should enjoy an unchecked progress, and complain of stagnation and retrogression, if any particular branch, for which perhaps one has a personal preference, falls into decay. The evolution proceeds on the large scale, although only one or a few factors are in active progress and other fields lie fallow; for at the proper time these others will again be taken in hand, and in such a way that the elevation already attained is embraced in the new phase of the evolution (think of Raphael and Phidias, Göthe and Euripides). What is apt to blind the observer to the general development of humanity is really a too narrow limitation of the view, which keeps the eye fixed on certain painful and apparently incurable political or social diseases, or on the momentary ruin of one's favourite intellectual hopes, instead of opening it wide to embrace vast historical scenes, which would make plain not only the great civilising events of the present time, but also reveal the multiplicity of the ways of history, and the possibility and probability of an improvement of these painful conditions by a path not dreamt of, and perhaps even contemned. But in yet another sense a too narrow restriction of the historic horizon may blind to the great truth of evolution, namely, if of the long period of humanity's unfolding all too small a portion, say the last thousand years (called in the narrower sense, "historic") be selected, and the brilliant age of Pericles or of Augustus be compared with the present era. The *naiveté* accuracy and delicacy of feeling of the æsthetic culture of those times may deceive us for a moment with respect to the superiority of our own, but the delusion disappears as soon as we reflect that the age of Pericles possessed these

excellences only instinctively and unconsciously, as is shown by the fact that even so deep and circumspect a thinker as Plato, with such models before him, could construct so poor a theory of æsthetics and an ideal constitution so remote from actual needs. Not the shallow common sense of the Romans, but the Germans of the last century, converted into the conscious and now inalienable possession of humanity what the Greeks only wrought out by instinct; and which we can no longer execute, because in all departments of art we have advanced in feeling from the plastic to the pictorial. The naive delicacy of taste, for which antiquity was distinguished in all directions, is naturally also far more easily destroyed by rude external influences or inner decay than the more substantial mental culture of the present day, with its rich material knowledge and self-conscious capacity, which is protected from sinking into oblivion by a thousand expedients. Other differences consist in this, that in antiquity the cultivated portion of the world was very *small* compared with that of the present day, when culture has spread more or less among all vigorous races and peoples, and new parts of the world have been taken possession of by the civilised peoples of Europe. At the same time, however, within the civilised races also education is ever extending to larger circles and strata of the population, so that for a twofold reason the cultured and mentally advanced society of the present day forms a very much larger quota of the total population of the earth than heretofore, and is growing with the greatest rapidity precisely at the present moment. But now as we have to do not with the development *of men* but *of humanity*, this increase in breadth is not less important than the growth in depth—apart from the circumstance that the imperishability of what has once been won is guaranteed by a probability advancing in geometrical progression.

It is true that the free possession of the fruits of civilisation is still hampered and embittered by the struggle

with the threatening shades of the Middle Ages reaching into our own time; but we must not allow ourselves to be blinded by the struggle against these no longer justifiable existences to the historical value of the same in the past, and their abiding significance for the evolution of humanity. The utterly barbarous tribes of the Germanic migrations required during their infancy a strict schooling, in which the physiological processes of transmutation and fusion simultaneously went on, as whose result we have the nationalities of Europe of the present day. If antiquity especially developed the beautiful in *sense* and *fancy*, if the culture of the *understanding* to-day gives us the right to declare the forms of mediæval life to be relatively barbarous, it was the task of Germanism to complete the deepening of the *heart*, though naturally in a one-sided fashion, and this it could accomplish effectively by the aid of no other civilising impulse than the transcendent ideals of Christianity. It would be unjust to refuse to recognise that the working-out and development of the profoundest forces of the German mind, which will ever remain a possession to humanity after separation from that native soil, is essentially, if not exclusively, due to the imaginative inner life of the Middle Ages. Whoever has got the better of the elements hostile to civilisation inherent in the popular Christianity is for ever secured from relapsing into the elements of past periods of the development of humanity, which are hostile to civilisation, whereas the most highly cultured Greek or Roman had still *before* him the Christian phase of evolution.

Such an injustice to the Middle Ages Buckle and his school are guilty of when they set up the conscious *understanding*, which undoubtedly is *higher* than sense, fancy, and heart, and ought to govern these, as *sole* measure of advance in culture, which it by no means is, since the *harmonious* elaboration of all the mental forces appertains thereto; and since the understanding alone, without the

foundation of powerfully developed sensibility, fancy, and heart, would only produce wasted shadows, but not men capable of any earnest task. The source of this error is this,—that the English, even down to the present day, are essentially at that rationalistic standpoint which we occupied in the last century; and that these historians of civilisation, instead of trying to discover the unconsciously impelling ideas of history, fancy they can explain them as a product of conscious reflection. Unconscious reason, namely, unfolds itself, as we have just seen, just as much in sensibility, fancy, and heart, as in the reflection of the conscious understanding; and it again is evidence of an all too-narrow glance, when the regulative element of *modern* life is looked upon as that which is most important for *all* time, and as a standard of culture valid for all time. In opposition to such a straitening of the history of civilisation into a "History of Rationalism" Hegel's attempts at a Philosophy of History retain their full value, since in them the discussion always and alone turns upon the (unconscious) ideas underlying the epoch.

The opposite view of Schopenhauer with respect to History rests on his conception of time as purely subjective phenomenal form, according to which all *that happens* is an exclusively subjective appearance, wherefore *history* is a subjective tissue of representations devoid of truth. He blinds himself to the manifest contradiction of this view, to the mighty organism of the historic evolution of humanity, on the one hand, by reflecting only on the indifferent and accidental framework of facts (succession of kings, battles, &c.), instead of on the content of historical culture, which is entirely neglected by him; and, on the other hand, by confounding the demand for a heightening of individual comfort with the demand for a civilised progression of humanity as a whole. *Happiness* certainly does not keep pace with human progress, but this does not militate against the truth, that this progress, both in

the inner mental world and in the forms of social life, really exists, and leads to ever higher development.

If anything is calculated to prove the great progress in spiritual matters from the Greeks to the present day, it is the progress of philosophy and especially that of the German and English philosophy of the last two hundred years. Philosophy as the final summariser of the ideas which support a period of civilisation, and as the flower of the historic self-consciousness of the Unconscious Idea, may be taken as the most faithful representative of the spiritual horizon of a section of time in the narrowest and most compact frame; the progress of the development of ideas, which we perceive in the history of philosophy, shows us as through a diminishing glass the quintessence of the spiritual possessions of the corresponding ages in their various phases of development. That in the different philosophies there is really a *development* was first shown by Hegel, who constructed from the earlier detached intellectual torsos an organically connected and harmonious monumental group. Undoubtedly the individual collaborateurs had either no idea at all of this concatenation, or possessed indeed only a highly defective knowledge of a limited number of their predecessors, and just as their profoundest principles instinctively welled up from the depths of the Unconscious, so instinctively did they themselves divine the truth in regard to the place, which they had to occupy in the evolution, so that the modern historiography of Philosophy must be characterised as the *bringing to consciousness* of the *unconscious* relations obtaining between different philosophics, in consequence of which they unconsciously form a great development series. But now, when we consider that at the same time each of these philosophies is only the most conscious expression of the period of civilisation which has just attained its acme, thus only the last budding branch, which has sprung from the common hidden root, whence all the achievements of this portion of time in the most diverse

directions have harmoniously sprung,—then it is evident, that the epochs of civilisation taken as a whole must be as much related as phases of an ascending development series, as those common roots of the characteristic performances of each one of them (*i.e.* their unconsciously impelling ideas), or as their most conscious forms of expression (the standard philosophies). What should be regarded as the unconscious impelling Idea in any particular period, can only be determined by the Unconscious itself in reference to the phase of development which is ideally indispensable at that precise time. For the human individuals themselves, who perform the tasks answering to this phase, before they even in a small measure attain to the consciousness of the unconscious Idea, by which they are impelled, cannot possibly be the cause of this phase of the Idea, since humanity only attains a consciousness of the introduction of the same into the collective organism, and of the necessity of just these phases of development in this period of time long after the close of the period in question.

Now the means whereby a particular phase of the IDEA is actualised in a certain period are of two kinds, namely, on the one side the implanting an instinctive impulse in the masses, and on the other hand, the production of men of genius as finger-posts and pioneers. This mysterious impulse which works in the masses from time to time in the form of tribal migrations, emigrations of multitudes, crusades, religious, political and social national revolutions, and guides the same with truly demonic power to a goal of which they are unconscious, is still ever "right conscious of its *way*," if it also for the most part believes, that this way leads to quite another *goal* than is actually the fact. For in the cases, where the masses do not altogether rush headlong forward, blind with rage, and without conscious aim, but have an end in view, this conscious aim is commonly a worthless or perverse one, whereas the true purpose of history in these revolutions is only subse-

quently unveiled.—In like manner, even without exactly inflaming the masses, history attains, by the initiative of eminent individuals, results which were quite beside the conscious purposes of such men. (Think in particular of the fertile marriage of different national civilisations, how with the national exclusiveness of earlier times they could have been produced only by means of vast expeditions for the sake of conquest, as, *e.g.*, those of Alexander, of Cæsar, the Roman expeditions of the German Emperors, nay, even the European revolutions evoked by Napoleon. Only an unhistoric sense can make light of the fields strewed with the corpses of these heroes duped by the Unconscious, whence have sprung harvests so fruitful and rich in blessing.) Other ends are attained by the Unconscious in a more peaceful way, when it calls forth the right genius at the right time, who is enabled just to solve that problem, whose solution his age urgently needs.[1] No more calamitous gift for the individual than genius, for the men of genius are, even with apparent outward good fortune, yet always those men who most deeply and irremediably feel the wretchedness of existence. But men of genius are not here for their own sake, but for humanity; and for humanity it is quite indifferent, whether in fulfilling their task they feel miserable, or even perish in distress. The right man has never been wanting at the right time; and the cry sometimes heard, that men are lacking for certain urgent tasks, only proves that the problems have been wrongly proposed by human consciousness, that they do not at all (or at least not now) lie in the plan of history, and that consequently even the most gifted men would vainly expend their mental energies on *these* problems (at least at this time). (Such an *absolutely* insoluble problem, *e.g.*, is the

[1] As the most natural and easiest means to this end appears the bringing together of two persons suited to produce the required individuality by a love kindled in them with the unconscious purpose of begetting this prominent human being (cf. Dr. Carl Freiherr du Prel: "The Metaphysic of Sexual Love in its relation to History," in the "Aust. Journal for Sc. and Art.," 1872, No. 34).

regeneration and strengthening of States doomed to decay and dissolution. A *temporarily* insoluble problem, on the other hand, is the revival of original production in some special field of mental work, which, at the moment in the hands of Epigoni, must lie fallow for a season, before a new phase of development commences under the influence of a new and fertile idea.) This pre-established harmony, so to say, between historic problems and individuals with a special faculty for solving them, reaches so far, that even technical inventions (in a practically available form) are effected always, but then also always, only when the pre-conditions for their fruitful utilisation, as well as the need of such aids to culture, are given.

Now the collective *inner spiritual* evolution of humanity forms the proper content of the history of humanity; whereas State, Church, and Society, notwithstanding their organic character and their organic development, still, in respect of the inner spiritual evolution, have only the value of a scaffolding which, produced by the unconscious mental activity of individuals, now on its side again supports and furthers the elaboration of the conscious mind, by not only protecting and securing it, but also as an accessory mechanism saving one great part of the spiritual labour, and lightening another.

Like every bodily part the cerebrum also is strengthened by use and exercise, and made more capable of new allied performances; but as in every bodily part, so in the cerebrum the vigour and material perfection acquired by the parents is transmissible to the child. This transmission is not directly demonstrable in each single case; but, on the average, taking one generation with another, it is a fact, and it is likewise a fact that there is a latent transmission, which only reveals its fruits in the second or third generation (*e.g.*, when somebody inherits from his maternal grandfather a luxuriant red beard and fine bass voice). As each generation further elaborates its conscious intel-

lect, thus also further perfects its material organ, in the course of generations these additions, imperceptibly small in a single generation, amount to clearly visible quantities. It is no mere figure of speech, that children are now born more clever, and that, less childish than formerly, they even in childhood show a tendency to become prematurely knowing. As the offspring of trained animals are more adapted for similar training than offspring captured when wild, so also the children of a human generation are the more clever in making acquisitions in the various departments of practice and theory, the greater the advance already made. I doubt, *e.g.*, whether a Greek boy could ever have become an excellent productive musician in the modern sense, because his brain was without those inherited predispositions for the wide field of musical *harmony*, which modern humanity of western Europe has only gained through an historic development of more than fifteen generations. An Archimedes or Euclid, in spite of their relative mathematical genius, would have evinced no little awkwardness as pupils of an instruction in the higher mathematics.

Thus all spiritual progress causes an enhancement of the executive capacity of the material organ of the intellect, and this becomes through inheritance (on the average) the enduring possession of humanity—a position sealed facilitating further advance. That is, the progress in the spiritual possession of humanity goes hand in hand with the anthropological development of the race, and stands in reciprocal relation with it; all progress on the one side stands the other side in good stead. There must, accordingly, be also an anthropological ennoblement of the race, which springs from other causes than that mental progress, which furthers the intellectual evolution. Of the latter kind is, *e.g.*, the improvement of the race by sexual selection (B. Chap. ii.)—which ceaselessly exerts its unnoticed but powerful effects—or the competition of races and nations in the struggle for existence, which is

waged among mankind under natural laws just as pitilessly as among animals and plants. No power on earth is able to arrest the eradication of the inferior races of mankind, which, as relics of earlier stages of development once also passed through by ourselves, have gone on vegetating down to the present day. As little as a favour is done the dog whose tail is to be cut off, when one cuts it off gradually, inch by inch, so little is there humanity in artificially prolonging the death-struggle of savages who are on the verge of extinction. The true philanthropist, if he has comprehended the natural law of anthropological evolution, cannot avoid desiring an acceleration of the last convulsions, and labouring for that end. One of the best means is the support of missions, which (according to a truly divine irony of the Unconscious) has done more to further this purpose of Nature than all the direct attempts of the white race at the annihilation of savages. The quicker this eradication of the peoples living in a state of nature incapable of competition with the white race is proceeded with, and the quicker the whole earth is exclusively occupied by races hitherto the highest, the more quickly will the struggle of different *stocks within* the highest race burst forth into immense proportions, the sooner will the spectacle of the absorption of the lower *race* by the higher be repeated among *stocks* and peoples. But the difference is, that these peoples are far more equal, thus far more capable of competition, than the lower races (except the Mongolian) have hitherto shown themselves in presence of the Caucasian race. Hence it follows that the struggle for existence between nations, because waged with more equal force, must be much more fearful, bitter, persistent, and attended with greater sacrifices, than between races, as we shall see later on (C. chap. x.), that the struggle for existence is in general the more bitter and the *more merciless*, but at the same time also the *more advantageous* for the progressive evolution of the race, the *nearer* are the species or varieties that compete with one another.

It is relatively indifferent whether this struggle for existence between peoples and races assumes the form of physical struggle with weapons, or whether it takes place in other apparently more peaceful forms of competition. It would be a great error to suppose that war is the cruelest or even only the most effective form of annihilating a competitor; it is only the most obvious, because rudest —but on that very account also the *ultima ratio* for a people which sees itself overreached by its competitor in the so-called peaceful clashing of interests. The sacrifices of even the greatest war are insignificant compared with the annihilation of millions and millions of human beings who perish when, *e.g.*, a people is drained by another of higher industrial development by means of commerce, and deprived of a part of its previous source of earning a livelihood (*comp.* Carey's "Principles of Political Economy," on the effects of the English blood-sucking system in India, Portugal and elsewhere). While by means of this struggle for existence the earth becomes more and more the exclusive possession of the most highly-developed peoples, not only does the entire population of the earth become more civilised, but also by means of the differentiations conditioned by forms of soil and climate within the people that has attained the hegemony new germs of development are always being scattered, which indeed, again, can only be unfolded by means of the cruel struggle for existence.

Awful as is the prospect of this perpetual struggle from the endæmonist point of view, equally magnificent does it appear from the teleological in respect to the goal of an extreme intellectual development. One must only accustom oneself to the thought that the Unconscious can be led astray neither more nor less by the lamentation of milliards of human individuals than by that of as many animal individuals, if only these torments further *development*, and thereby its own main design.

I said above, that the fact of an evolution of humanity

may certainly be doubted if one contemplate too limited sections of history; we may now say, that one can *only* in that case doubt evolution, but not if the total duration of humanity, from its first appearance on earth till the future perspective just hinted at, be surveyed with a single glance. The time has gone by when a Creuzer and a Schelling supposed a primitive people endowed with all wisdom, from whose decay the race of mankind had developed. To-day, comparative philology and comparative mythology, ethnology, anthropology, and archaeology, unite in their teaching that the state of culture of our forefathers was the ruder and more primitive the more remote the era to which we descend. When three to four thousand years ago the Aryans began in small detachments that national migration, whose present result is the rule of the Indo-Germanic stocks from the Indian Ocean to the Pacific, they already possessed a considerable civilisation, which can only have been the result of the antecedent ten thousands of years. Already provided with a language furnished with inflexions, with fruitful and profound philosophical nature-myths, with technical instruments for agriculture, the shaping of dwellings and clothes, they make their first appearance in history. Much as we have gained in culture since then, yet it holds good here more than anywhere that all commencement is difficult, and doubtless it was a far greater and therefore also more protracted task to work up to such an elevation from the primitive condition of speechless human animals, than, once in possession of such means of culture, especially such an incomparable language, to subjugate Nature ever more and more, and to outstrip the backward races in ever-increasing progression.

If language, mythology, and technology form the spiritual content of that pre-historic period of civilisation, the *family* expanded to the *tribe* is the form in which this content is embraced. Whilst the sexual instinct brought together man and woman to found a family, it was on the

one hand the instinctive social instinct (Grotius) which hindered the atomistic sundering of blood-relations of the first and second degree; and, on the other hand, the struggle for existence, the war of all against all (Hobbes), the hostility of foreign neighbours to one another, which necessarily brought about an increase of the power of attack and defence by the closest solidarity of the family and the clan. Thus the head of the family grew into the elder of the clan or patriarch, and—with increasing expansion of the clan into the tribe—into the chief of the tribe, or patriarchial king. In this condition do we find the Aryans, when they conquered Hindostan; the Greeks, at the time of the Trojan war; the Germans, in their tribal migrations. It is true that animals also found families, also wage war with one another; but they immediately relapse into the inorganic mass of the *herd*, as soon as more than the family in the narrow sense remain together, whereas the clan is organically parted into families and therefore really exhibits the higher unity of the latter. Wherefore the union of the three instincts (sexual impulse, social impulse, and instinct of enmity of all to all) is, in fact, in man something new and higher than in the animal, and makes him the ζῶον πολιτικὸν of Aristotle.

The higher unconscious content of those instincts in the case of man is shown in this, that its proximate products, the family, the clan, and the tribe, must be regarded as the germinal vesicle and embryo of all later political, ecclesiastical, and social forms. The head of the family is first *king* (leader in battle, exclusive representative of the family to the outer world, and judge, with power of life and death); secondly, *priest* (in the then exclusive family worship); and thirdly, *teacher and taskmaster* of his own people. These three departments are here still united in inseparable unity; or, more correctly, they have not yet at all worked themselves out of their state of indifference. This emergence does not take place suddenly but gradually; each of the three spheres has the tendency to de-

velop into a *formal organism*, which dominates according to possibilities the other life-spheres. That one of the three spheres now, on whose elaboration in an historical period most popular energy is expended, in fact rules during this period. But since the departments can only be worked at one after another, it lies in the nature of the case that the sides which first emerge must implicitly contain in themselves those which are not yet unfolded, so far as the latter do not still remain in the primitive bosom of the family.

The development of the *State* is everywhere the first and most urgent requirement; but the ecclesiastical and social functions, so far as they have emerged from the family circle, must be supplied at the same time (thus, *e.g.*, in the Græco-Roman constitution, where the kingly high-priests, and also in the republican phase the ecclesiastical institutions were integral parts of the State). In Hindostan, a few centuries after the conquest by the Aryans, there took place that powerful revolution, whereby the military nobility was almost exterminated, and the rule of the priesthood was permanently established down to the present day. In the West this revolution (which in India stifled all germs of progress) happily took place after a complete cycle of the political development of antiquity; a circumstance which, after the expiration of the mediæval-ecclesiastical phase of development, made possible the re-birth of German life, even in political and mental respects, by means of the renascence of antiquity.

As the *Church* only appeared as the second element, it could not absorb the already existing State in the same way as in antiquity the State the yet-undeveloped Church; but it could push it back into the second rank, and itself occupy the first place. Whilst in the last century secular life again gained the upper hand over the spiritual, it was only in appearance the State as such that gained the victory over the Church. In truth it is the *social* interests which have repressed the ecclesiastical, and

only because society as such is still occupied in fashioning an organ of its own has it been provisionally the State that has outstripped the Church in the perception and advocacy of certain social and especially economic interests, and so in general has obtained precedence of her; whilst, on the other hand, the hitherto-existing Church likewise derives its best power of persistence from certain social functions which she still vicariously champions. This phase is, therefore, particularly interesting, because it offers something really new under the sun.

The commencement of the evolution of *society* as such into an independent organism *beside* Church and State is something so new, that there are only a few who notice it at all. Most people think, because the organism of the State must at present vicariously perform social functions (*e.g.*, instruction of youth, care of the poor, guaranteeing of interest for industrial undertakings), that these things are really State-functions, and then perhaps commit the error, like Lassalle, of expecting from it the establishment of associations for purposes of production, instead of rather co-operating in the organisation of society, and transferring to the latter social functions hitherto performed by the State. But where exceptionally the ideal separation of State and Society, and the necessity of gradually procuring a real separation is recognised, there perhaps we hear talk of a necessary and irreconcilable strife between them, instead of the harmony of political and social interests (Gneist). Negatively expressed, Society embraces the wide sphere of life-relations and forms of intercourse, that are not given in the conceptions State and Church; positively expressed, it is the *organisation of labour* in the widest sense. The organisation of labour especially signifies the ordering and regulating of the division of labour between the sexes and individuals; but, in addition also, the preparation of youth for their life-work, and the care of those who have become incapable of work. The notion of the division of labour of course includes the highest as

the lowest, unqualified manual labour as well as the mental labour of the investigator and artist, and not less the labour of education and of social self-government. It is evident that "Society," in this sense, in fact embraces all forms of civilised life except State and Church; a meaning in which it has hitherto been understood only by Lorenz Stein. The tendency of this working-out of a social organism (Socialism) is to *limit* the freedom of competition, which has been the means of emancipating labour from its former shackles, in favour of a systematic division of labour, and to prevent the gain of one (as in free competition) being only too often purchased at the disproportionate loss of another. But, as said, this phase is still so much in its very commencement, that the How of such organisations as will infallibly arise in the future is thus far quite indeterminable.

We will now bestow one more hasty glance on the development of the forms of the State, the Church, and (if only as yet implicit) Society.

I shall first try to describe with a few strokes the outline of the development of the *Idea of the State*, as it appears to me. History exhibits three main contrasts in the life of the State, large state and small state, republic and monarchy, indirect and direct government. The problem is, to unite large state and republic as the preferable forms, the means to that end indirect government. The patriarchal chieftainships and royalties show us the union of small state and monarchy, the Asiatic despotisms that of the large state and monarchy. Here only one man has civil liberty, all others are bond-slaves or thralls of the ruler. The Greek town and district republics are the first specimens of the Republic. Favoured by the natural divisions of their small country, the Greeks could, even in their petty states, exhibit the republican form of government as an aristocracy of free citizens, ruling over twice as many slaves. The Roman Empire combines the Greek town-republic with the Asiatic des-

potism of the Great State; in place of the despot appears the Roman citizenship, and all subjugated lands contain only slaves. When therefore the republican power of the Roman citizens waned, it likewise relapsed into the Monarchy of the Great State.—Germany brings a new principle into the idea of the State by its system of feudalism, that of indirect government or the pyramidal graduated system of rule, whereas antiquity only knew direct government. The ancients had only free-men and slaves, but now appears a gradation of freedom from the king down to the thrall, in that each man is lord of his own vassals. I might therefore call the State of the Middle Ages the monarchical pyramid.—Lastly, the modern world utters the decisive word with its postulate of universal human freedom; it aims at large states having their natural limits in nationalities, it revives the Greek town-republic in the self-government of the towns and communes, and finds in the principle of representation by chosen deputies a means of rearing a republican pyramid, of which up to this time the best, but by no means perfect, example exists in North America, but which must and will at some time or other, with the universal spread of civilisation, embrace all the countries of the earth, since the sovereignty of the *national* states is just as much a moment to be sublated as that of the *territorial* states.—The constitutional hybrid of monarchy and republic is nothing but a prodigious palpable lie, and has an historical authorisation only as a transitional form and the political school of nations. In the Federal Republic, which certainly will come to pass when the individual states have become republics, the state of nature in which communities at first exist will pass into the state of right, and self-protection by war into legal protection by the federal republic, as the natural condition and self-protection of the individual passes into the legal condition and legal protection on the formation of the State. (Here is opened the possibility of a termination of the struggle for existence alluded

to on page 25, namely when tolerably uniform climates are occupied by *the same* people organised in the universal State, and competition between the peoples inhabiting different climates is excluded by the limits of their capacity of climatic accommodation, which assigns them different geographical areas of diffusion.)

The *second* of the forms to be noticed, the *Church*, has a more limited and more one-sided function than State and Society; for whilst the latter simultaneously subserve many interests, and satisfy many needs, the Church subserves exclusively the need of the religious sentiment, and indeed not of *any* religious sentiment, but only of that, which either requires for its full satisfaction a *common* cultus, or feels itself far too weak to rely on the consciousness and feeling of the individual self, and now seeks, by means of the external institution of the visible Church, a palpable external support in lieu of the internal. As a natural consequence, with the growth of the solidity of the inner spiritual substance of mankind the visible Church must lose in importance. Nevertheless at the present standpoint of civilised nations the Church is still a factor of the highest importance, and will still long remain so, even when it takes the third place (after Society and State).

As already mentioned, the State is the first of the three forms to unfold itself, and the Church is bound up with it. Even there, where exceptionally (as in Judaism) the State is from the commencement an ecclesiastical State or theocracy, it does not advance beyond the national limitation of theocracy. The idea of a cosmopolitan Church or theocracy can always be only the result of a religious revolution. Thus in India, Buddhism; on the shores of the Mediterranean, Christianity, broke up the earlier national narrowness of ecclesiastical institutions, and thereby inaugurated an oriental and an occidental Middle Age. This cosmopolitism of the Mediæval Church is of the greatest significance, and most important in results both politically

and socially, for it gives for the first time a solidarity of consciousness to the members of different peoples and States, thereby extends both extensively and intensively the peaceful intercourse of different peoples with one another, and prepares the cosmopolitan consciousness of modern times, which is based on the social principle of Humanity, and surmounts the barriers of *ecclesiastical* antitheses, just as the cosmopolitism of the Mediæval Church had burst the barriers of the constitutional antagonisms which it embraced. Thus the Church naturally leads us to the *third* form, *Society.*

Social development exhibits four leading phases, of which the first three are to be looked upon as stages preparatory to the fourth, in which for the first time Society is unfolded as an *independent*, co-ordinate form.

The first phase is the *free state of nature,* where every one only works for himself and his family, as, *e.g.*, among the Indian hunting-tribes. From this condition an ascent to greater comfort, and thereby to greater civilisation, is impossible, because in the atomistic freedom of individuals there is no motive to bring about the *division* of labour, through which alone that *economy* of labour is possible, which is indispensable for a production in excess of the momentary needs of life, *i.e.*, of an elevation of national well-being through the accumulation of capital.

The second phase is that of *personal rule,* where the lord is the proprietor of the persons or the working-powers of his slaves or thralls. Here the lord soon finds it to his interest to introduce a division of labour among his slaves, whose work now produces an excess beyond their and his requirements, which is applied to establish a stock-in-trade (capital). Thus national wealth grows through accumulation of capital, to the advantage, however, certainly only of the master, not of the serf. The Roman Empire and the Middle Ages afford an example of this stage.

The third phase, which is only rendered possible by the

prolonged agency of the second, is that of the *rule of capital* In this period the fixed capital, hitherto alone of importance, is surpassed by free capital, and driven more and more to become mobile if it is not to lose disproportionately in value. This process goes on simultaneously and in reciprocation with the greatest mitigation and abolition of bond-service, whereby the power of labour becomes a free commodity, and falls under the general laws of price (which is determined by supply and demand). As capital can organise the division of labour on a far grander scale, a far larger quota of the total labour will also now become superfluous for present needs and available for the future, *i.e.*, for productive investment; thus also the increase of capital and the growth of national comfort must proceed far more rapidly than in the foregoing phase. But here too this increase of national wealth is essentially to the advantage of the possessors of capital alone, since that part of it which falls to the working classes is immediately followed by a *numerical* increase of the labouring classes, which in the redistribution always keeps the share falling to each individual at the level of the usual indispensable minimum for maintaining life. Experience at least confirms this for the industrial forces of labour accessible to the market of the world.—But free capital also is an Idea, which unfolds and attains maturity, only to perish after its task has been fulfilled, and to make place for other structures. Its historical task also is transitional, and only consists in preparing the ground for the next stage, just as the function of slavery consisted in preparing and making possible the rule of capital.

The fourth and last phase is that of *free association.* If, namely, the value of slavery and rule of capital was only to be measured by the degree in which they made possible, and introduced a division of labour, and thereby economy of labour, these always still highly imperfect coercive measures of history, which bring in their train accompanying unutterable misery, must become superfluous as

soon as the character and understanding of the workman are developed to the degree of civilisation, in order by free conscious agreement to undertake an appropriate part of the work in the universal division of labour. As before the difficulty was, to educate the freed slave to voluntary labour, so now the difficulty is to educate the labourer, in order that when set free from the yoke of this rule of capital, he may adequately fill in the association the place *assigned him.* To conduct this education (by means of Schultze-Delitzsch Unions, better school-teaching, labourers' educational unions, &c.), is the most important social problem of the present day. Free association the future will of itself bring forth, if one cannot yet exactly say, with what means and ways, whether by some kind of peaceful development, or by catastrophes which will exceed in awfulness all that has hitherto happened in history.—In this last phase the actual payment of money (except coins) will be made just as superfluous by the general introduction of *banking*, as in the foregoing stage *barter* was superseded by the *use of money.*

If the rule of capital has already done much more for the division of labour than slavery, free association will far exceed the former in an incomparably higher degree (think of an indivisible organisation of production and sale on the whole earth analogous to the indivisible political organisation of the whole earth). In correspondence herewith the growth of material wealth will take place much more rapidly than at present, supposing that it be not neutralised or outstripped by the increase of the number of the population, which to be sure has its limits assigned it by the maximum of nutritive plants produced on the whole earth and of fishes yielded by the waters; or, if one takes into account the inorganic conditions of the means of subsistence, by the limited habitable space of the earth's surface.

The goal of this social evolution would be, that every one, with a period of work which allowed him sufficient

leisure for his intellectual culture, should lead a comfortable existence, or, as one is wont to say with a more sonorous expression, an existence conformable to the dignity of man. Thus, as the final political state would secure to man the *external and formal*, the final social condition would afford him the *material* possibility of ultimately fulfilling his positive and proper task, for the fulfilment of which the *internal* conditions must necessarily be sought in the before-noticed mental or *intellectual* development.

If in this entire development we cannot miss a single plan, a clearly-prescribed aim, towards which all stages of development are tending; if, on the other hand, we must allow that the several actions which prepared or led up to these stages had by no means this conscious goal, but that the human being almost always aimed at something else, effected something else, we must also acknowledge that something else than the conscious intention of the individuals, or the accidental combination of the several actions, is occultly operative in history, that "far-reaching glance, which already discovers from afar, where this lawlessly roaming freedom is conducted in the bond of necessity, and the selfish aims of the individual unconsciously tend to the perfection of the whole" (Schiller, vol. vii. pp. 29, 30). Schelling expresses this in the System of Transcendental Idealism (Works, i. 3, p. 594): "In freedom there shall be necessity, means then as much as: Through freedom itself, and in that I think to act freely, there shall unconsciously, *i.e.*, without my assistance, come to pass what I did not intend. Otherwise expressed: to the conscious, that is, that freely determining activity which we have before deduced, there shall be opposed an unconscious one, whereby, in spite of the unlimited expression of freedom, something arises quite involuntarily, and perhaps even against the will of the actor, which he himself could have never realised by means of his own volition. This proposition, however paradoxical

it may appear, is indeed nothing else but the transcendental expression of the generally accepted and presupposed relation of freedom to a concealed necessity, which is called now fate, now providence, without anything being clearly thought by the one or the other; that relation, in virtue of which human beings, through their free action itself, and indeed against their will, are compelled to be causes of something which they never willed, or conversely in virtue of which something must fail and go wrong, which they have willed with freedom and with the exertion of all their energies" (*Ibid.* p. 598). "But this necessity itself can only be conceived by means of an absolute synthesis of all actions, from which everything that happens, thus also all history, is developed, and in which, because it is absolute, everything is so weighed and calculated beforehand, that all that may happen, however contradictory and inharmonious it may appear, yet has and finds in it its point of union. This absolute synthesis itself, however, must be placed in the Absolute, which is the intuitive and eternally and universally objective in all free action." Whoever has well understood this passage, of which it may be said that it represents the view of all philosophers since Kant, and the substance of which has been reproduced in detail by Hegel in the introduction to his "Lectures on the Philosophy of History," for such an one I have nothing to add.—To any one who prefers to stop at the conceptions Fate or Providence, one can only object that he can therewith frame no clear idea how *my* act, whether it is the work of my freedom, or the product of my character and the efficient motives, how this *my* deed is to actualise another than *my* will, say of a God enthroned in heaven. There is only one way in which this demand is capable of fulfilment, if this God descends into my bosom, and *my* will is to me in an unconscious way at the same time God's will, *i.e.*, if I unconsciously will something quite different to what my consciousness exclusively thinks to will; if, further, consciousness *errs* in

the choice of the means to its end, but the unconscious will appropriately chooses this same means for its purpose. Otherwise is this psychical process not at all thinkable, and as much as this is said in the first half of the passage from Schelling.—But now, if we cannot do without an unconscious will in addition to the conscious will; if, on the other hand, we add the long known clairvoyance of unconscious representation, why bring a transcendent God in addition into the affair, when the individual is sufficient of himself with the faculties familiar to us? What then is this fate or providence but the rule of the Unconscious, the historic instinct in the actions of mankind, as long as just their conscious understanding is not yet mature enough to make the aims of history their own? What is the impulse to form a State but an instinct of the masses like the linguistic instinct, or the gregarious impulse of insects, only mixed with more infusions of the conscious understanding?

If, in the animal, as we have seen, instinct always appears just when a need is not to be satisfied in any other way, what wonder if also in all branches of the historical evolution the right man is always born at the right time, whose inspired genius perceives and satisfies the unconscious needs of his time? Here the proverb holds good: When the need is most, the help is nearest.

Why should we trouble a god who stands without and pushes and guides from the outside in the case of the historical instinct of man, when we have not found it necessary in the case of all the other instincts? *Only then*, if in the progress of the inquiry it should appear, that the unconscious in the individual has *nothing individual* in it except the reference of this its activity to this definite individual, then will Schelling be right also in the second part of the quoted passage, that the Absolute is the percipient (clairvoyant) in all such action, and its absolute synthesis (inweaving), or as Kant once expresses it (Works, vii. 367), that "Instinct is the voice of God."

but now of the God in one's own breast, the *immanent* God.

If we have found the stopping short at the idea of a fate or a providence to be inadmissible, it is not to be understood, that these ways of looking at the matter, just as that of the exclusive self-activity of individuals in history, are in themselves illegitimate, but only, that they are one-sided. The Greeks, Romans, and Mohammedans are quite right in their idea of *εἱμαρμένη* or fate, so far as this signifies the absolute necessity of all that happens in the thread of causality, so that every link of the series is determined, predetermined by the foregoing, thus the whole series by the commencing link.

Christianity is right in its idea of *Providence*, for all that happens happens with absolute wisdom, with absolute fitness, *i.e.*, as means to the *fore-seen* end, by the never-erring Unconscious, which is itself the absolutely logical. At any moment only one thing can be logical, and therefore always only one thing can, and this the one logically demanded, must happen, just as fitly as necessarily (comp. further on C. Chap. xv. 3). Lastly, the modern rationalistic empirical conception is right, that history is the exclusive result of the *self-activity* of the individuals determining themselves according to psychological laws without any miracle of an incursion of higher powers. But the supporters of the first two views are wrong, in denying the spontaneity, those of the latter, in denying fate and providence, for only the union of all three points of view is the truth. But this very union was self-contradictory, as long as one assumed merely conscious self-activity of the individual. It is the cognition of the Unconscious which at once makes this possible and evident, by bringing into scientific clearness the hitherto only mystically postulated identity of the individual with the Absolute, yet without effacing their difference, which is a no less one than that of metaphysical essence and phenomenal existence (comp. C. Chap. vi.–viii. and xi.)

XI.

THE VALUE OF THE UNCONSCIOUS AND OF CONSCIOUSNESS FOR HUMAN LIFE.

I HAVE hitherto made sufficiently conspicuous the value of the Unconscious, so that it might appear that I was desirous of exalting the Unconscious in comparison with consciousness. To repel such a charge, to recall the value of conscious thinking, and to compare the worth of the conscious and unconscious and their respective offices, is the object of the present chapter.

Let us first consider the worth of the Conscious, of conscious reflection, therefore, and of the application of acquired conscious knowledge for mankind.

The fundamental question would be this: "Can reflection and knowledge determine action and character, and in what manner?" The affirmative answer, with which common sense would not be backward, might be placed in doubt through the consideration, firstly, that the specific will, from which action proceeds, springs from a reaction of the character on motive, a process which remains for ever closed to consciousness; and secondly, that volition and ideation are incommensurable things, because they belong to quite different spheres of mental activity. Their heterogeneity and incommensurability are however limited by this circumstance, that an idea forms the content of the will, and an idea its motive or exciting cause, and the eternal unconsciousness of the process engendering the will would only make any knowledge of the connection of motive and desire entirely impossible, if either character were in itself quickly alterable, or there were no necessary

uniformity in the process of motivation, but a freedom of the will in the sense of the Indeterminists. As neither condition obtains, the possibility is open to every one, like the physician with those drugs, whose physiological effect is incomprehensible to him, to collect an empirical knowledge of what desire is called forth by what motive and in what degree. So far as human characters resemble each other in general, this cognition will be general empirical psychology, but so far as characters are different, it will be special knowledge of self and man (Science of Character). If we combine with this the knowledge of those psychological laws according to which the excitability of the different kinds of desires is temporarily changed, as, *e.g.*, the laws of our moods, of passion, of habit, &c., and if we secure ourselves in the manner shortly to be considered from the illusions of the intellect, that are produced by passions, then if all these conditions are ideally satisfied, we shall be able to predict any moment the kind and degree of the resulting desire in respect of any motive, and the errors regarding the issue of the unconscious will-producing process mentioned in Chapters III. and IV. will disappear of themselves.

Now as every motive can only take the form of the idea, and the revival of ideas is subject to the influence of the conscious will, by voluntarily calling up an idea known as motive of a certain desire, there follows from what has been said the possibility of indirectly arousing this desire. Further, as the will is nothing but the resultant of all contemporaneous desires, and as the union of all the components into the one resultant has the simple form of an algebraic sum, because indeed all the components in respect of a future action can have only two directions, positive or negative, there follows further the possibility of influencing the resultant by arousing one or more new desires through a voluntary representation of the appropriate motives, or by strengthening those already present. The same means is also available for suppress-

ing such desires as would certainly not so soon attain to manifestation in action on external grounds, but which act prejudicially through disturbance of the mind, confusion of the intellect, production of useless feelings of pain, &c. But conscious reflection can never influence a present desire directly, but only mediately, by arousing an opposite one.—That this stated mode of influencing the will through the intellect is in fact the only possible one, and that which always occurs in practice, will readily be granted by everybody who makes this department of psychology a little the subject of his reflection. This, as well as the circumstance that the subject is somewhat wide of our proper theme, deters me from further discussing it. I will merely further add, that only from this point of view can a change of character through conscious reflection be explained. We have, namely, seen the possibility of determining the issue in every single case otherwise than by merely leaving it to the action of the motives spontaneously presenting themselves, and thereby the possibility of successfully making head against the emotions which are most easily excited in consequence of the now formed character, and therefore most frequently arise. If now this suppression regularly occurs on every occasion for a longer time, according to the law of habit, by the persistent inactivity and non-satisfaction of the particular impulse, its liability to stimulation will be enfeebled; while, on the other hand, the frequently and strongly excited tendencies will be strengthened, *i.e.*, the character will be changed. In the same manner the possibility of a change of character by means of conscious reflection, certainly only with the help of long habit, becomes intelligible (comp. Phil. Monatshefte, vol. iv. Hft. 5, on Bahnsen's Ethology).

The above fundamental question is herewith answered in the affirmative in both its parts, and we can now take a brief survey of what conscious reflection and knowledge have to offer to man as regards practice.

1. *Prevention of illusions of knowledge due to influence oj emotions.*—We have already seen how the emergence of ideas is essentially dependent on a momentary interest. Hence it happens that, with a predominant one-sided interest, *e.g.*, emotions, probable reasons for the case in accordance with the interest always preferentially enter into consciousness, and fewer contrary reasons; that seeming reasons *pro* are too readily assumed to be perceived to be faulty; but that seeming reasons *contra*, if they at all crop up, are immediately unmasked, and even good reasons *contra* depreciated or refuted by seeming reasons, and thus error arises. No wonder, therefore, that terror, anger, sensuous desire can so deprive us of our wits that we no longer know what we say or do, that hate causes us to see only faults in our enemies; love, merely excellences in our loved ones; that fear paints in gloomy, hope in rosy hues; that the former allows us often no longer to perceive obvious resources, the latter makes the most improbable probable, if it only corresponds to our wishes, that we mostly err to our own advantage, rarely to our disadvantage, and only too frequently hold that to be fit and just which is to our own advantage.

Interest even insinuates itself into pure science, for a favourite hypothesis sharpens the glance for everything confirmative, and causes us to overlook the plainest counter-evidence, or to let go out at one ear what comes in at the other.

There are two remedies for this: the first is, that one form once for all an empirical coefficient of reduction dependent on the degree of the passion or interest, and multiply this in any single case by the acquired coefficient of probability of the judgment; the second, that one allows no passion to attain the degree where it begins to perceptibly affect the judgment. The latter means will alone stand the test, but is not a general favourite, because inconvenient, and only attainable by long practice in self-command; the former entirely fails in the case of strong

emotions and passions, when all the mental powers are concentrated on a single point; moreover the magnitude of the coefficient of reduction is often difficult to fix, the actual estimate of the degree of personal passion still more difficult.—The value of intellectual clearness (σωφροσύνη) is pretty obvious in a verbal dispute, where the one allows himself to be carried away by passion, and not the other. Among women almost every real dispute passes into a personal one, whether clothed in the most delicate irony or in the choicest Billingsgate. Still more conspicuous is the value of sobriety and restraint of emotions in cases of peril.

2. *Prevention of thoughtlessness and irresolution.*—The largest part of all the remorse in the world arises from inconsiderate action, in which the possible consequences of the deed in all its bearings were not considered, the result being painful surprise on their appearance. If the evil consequences fall back upon the doer himself, inconsiderateness becomes levity. All this remorse would accordingly be spared by more deliberation in action. Irresolution on the other hand proceeds partly from want of courage, partly from want of confidence in one's own reflective powers. The characteristic of courage may, however, be supplied by conscious reason, since courage is risking one evil to avoid another, or to gain an advantage, on the supposition that the chances are favourable to the attempt, whether in consequence of the relative magnitude of the two evils or the probabilities of their occurrence. Want of confidence in one's own reflective powers is likewise corrected by reflection itself, when we say to ourselves that no one can do more than is in his power; that therefore if he have done the utmost, he may calmly await the result of the action, but that too long reflection as a rule not merely helps no more than a brief reflection, but by delaying action, does more harm than any possible improvement of the result can bring advantage.

3. *Appropriate selection of means to end.*—If an aim is

irrational, it is itself an inappropriate means to the main aim of every being, the greatest possible sum of happiness in life, which, if not clearly conscious to every one, yet as faintly sounding organ-point is heard in all the chords of life. But even where the ends are rational, or their choice and estimation does not devolve upon the individual, but only the choice of the means is entirely or partially left to him, by irrational selection of the means unspeakable evil is wrought, which can never be made good again. In important cases this is sufficiently striking; but far greater is the influence in the thousand petty cares, drudgeries, comforts and discomforts, pleasantnesses and unpleasantnesses of the day, in the intercourse of business, office, vocation, society, family life, the relationship of master and servant. It is especially in these cases, where the immediate ends are partly frustrated by improper means, partly attained at a disproportionate expense, and where accordingly people make the life of themselves and others far more difficult and bitter than it already is, by all kinds of distress, torment, trouble, vexation, and spite. And far more of all this comes from the limited insight of the average man and his unsuitable choice of means to the end in view, than from evil will, so that one is often tempted to exclaim, "Would that people were more wicked, if they were only less stupid!"

4. *The determination of the will not according to the passion of the moment, but according to the principle of the greatest possible personal happiness.*—The brute, with the few exceptions of the higher animals trained by man, is essentially dependent on the momentary sensuous and instinctively aroused emotion. Where instinct does not involve a reference to the future, the consciousness of the animal also does not easily concern itself therewith, and only too often must it suffer from the consequences of its absolute levity. Man, through his more highly-developed consciousness, enjoys the privilege of being able to oppose to the passions of the sensuous

moment desires, which are voluntarily produced by representations of the future, and has therein a means of securing for the Ego of the future an ideal equality with the Ego of the present. But now, owing to the less vivid character of voluntary ideas, the strength of the opposing desires is considerably circumscribed, and they are no longer able to offer a successful resistance to a tolerably strong emotion begotten by the sensuous present. Such an emotion rather hurries the man back to the stage of animality, and if he re-emerge from it with moderate loss and repentance, he may thank his lucky stars. If, then, the claim of the future Ego, and the principle of the greatest possible personal happiness, is to be preserved, there is nothing for it but to prevent the growth of the passions to so overpowering a degree, *i.e.*, to suppress them earlier, most surely and most easily in their origin. Here we have found the second reason for suppressing the emotions. An important office of reflection further is, to decide which of the many simultaneous aims of life that run athwart one another at any moment deserves to be supported, in order at any moment to contribute as much as possible to the total happiness; for the continually changing circumstances also require that we continually change, sometimes entirely let go, sometimes resume at a more favourable time, the aims for whose attainment one happens to be labouring.

5. *Value of conscious reason for morality.*—Most immoral actions are completely prevented by a prudent egoism, which proceeds according to the principle of the greatest possible personal happiness, especially in a State with an orderly system of law, and a society which punishes with its contempt such immoralities as the State cannot punish. That not many cases remain in which the ordinances of morality cannot be established in an egoistic manner is sufficiently proved by this, that so many ethical systems are openly or disguisedly based on egoism and the principle of the greatest possible personal

happiness, *e.g.*, the Epicurean, the Stoic, the Spinozistic. For all such cases one sees that the exercise of reason hitherto spoken of must suffice for morality, and in point of fact, along with custom brought about by compulsion, this reference to egoism is almost the only successful way to teach and to improve morality. What is not attained by it is hardly at all attainable from the point of view of individual ethics.

If one, however, disregards the practically vital effect of a rule of conduct, and contemplates the theoretical value of the ethical *systems*, there will hardly be any doubt that, whatever theoretical foundations of ethics be assumed, they can only be such as consist of principles of conscious reason, if they possess any scientific ground whatsoever, and are to be capable of supporting a system. I shall not, however, say more on this point now, in order not to wander too far from our theme.

6. *Correct choice of a calling, occupation of leisure, intercourse, and friends.*—" Whoever is born with a talent, finds therein his fairest existence " (Göthe), therefore it is very important, on the one hand, to recognise one's talent, which may be very considerable and yet be entirely missed; and, on the other hand, in youthful enthusiasm for an object, not to imagine a talent which one does not possess. Were both cases not frequent, so many men would not miss their vocation, the choice of which, in spite of all limitations, affords the individual tolerably wide scope. Still more difficult is it to detect the chief among several talents; more easy, on the other hand, to make the equally important choice of the dilettante occupation of leisure, because so much does not depend on alternation, and time is thereby gained for experimenting. As the choice of a calling requires a large self-knowledge, so the choice of intercourse and of friends requires a large knowledge of the world and of men. This is a human need; and one has not to choose whether, but with whom one will associate. The importance of the matter may be imagined when we

consider how the possession of a single, entirely congenial and true friend is able to afford consolation in the greatest misfortunes, but what bitter disappointments may be prepared by the choice of unsuitable friends. Nevertheless one often sees friendships concluded and persisted in for a long time, which are so little harmonious that one would think the people must be smitten with blindness. In fact, however, did not human beings, in their heart of hearts, actually regard themselves as as unreasonable as they are, it would not be possible for reconciliations so commonly to take place after occurrences which, referred to faults of character, could never be forgiven, and are only to be excused by unreason, wherefore men are fond of designating their mad pranks aberrations.—The imprudent choice of a friend is most bitterly avenged in marriage, because here the loosening of the relations is supremely difficult; and yet this is a case where regard is paid to almost anything else (beauty, money, family) than to harmony of character. Were people not afterwards so intellectually indifferent about fitting well or ill, when they see that they have been mistaken in each other, there would be many more bad marriages in the world than there are.

7. *Suppression of useless feelings of pain.*—Pleasure and pain consist in satisfaction and non-satisfaction of desire, which are produced by converse with the outer world, and which man can only influence by reacting on the external circumstances, which is the end of all action. If his power does not extend so far as to procure the satisfaction of his desires, he must just bear the pain, and can then only diminish or annihilate it by diminishing or annihilating the desire, in the non-satisfaction of which the pain consists. If one consistently carries this out in the case of every pain, the exciting capacity of the desires is blunted in accordance with the law of habit, consequently the future feelings of pleasure are as much diminished as the future feelings of pain. Whoever is of my opinion,

that on the average in human life the sum of the painful feelings far outweighs the sum of the pleasurable feelings, must perforce admit this general principle of hebetation as logical consequence of this view. But whoever does not at all or only in a qualified sense assent to this opinion, I refer to the not inconsiderable number of those painful feelings which are opposed to no feeling of pleasure at all, *i.e.*, in which the satisfaction of the underlying desire lies outside the domain of possibility, as *e.g.*, in pain for past events which cannot happen over again, vexation, impatience, envy, spite, remorse, which can bring no moral profit, further excessive sensibility, groundless jealousy, immoderate anxiety and care for the future, too lofty expectations of life, &c. Only consider how much the life of humanity would gain if one could eradicate every one of these foes of the mind's peace—the advantage would be incalculable; and yet it is open to every one to purify his life from these disturbers of his freedom by the application of conscious reason, if only he does not at once lose heart for the struggle through a few unsuccessful attempts. Thus we have found here a third ground for the suppression of the passions.

8. *The highest and most enduring human enjoyment afforded by the search for truth.*—The more concentrated and vehement is an enjoyment, the shorter time can it last, before reaction sets in, and the longer one must wait for its repetition; think of the delights of the table and of the amatory impulse in particular. The calmer, clearer, and purer an enjoyment is, the longer it can endure, the fewer pauses it needs for recreation; compare the musical, poetical and scientific pleasures. Thus it happens, that the strongest enjoyments, on account of the brevity of their duration and their necessary rarity, are not the greatest in amount, that rather the most spiritual, above all the scientific, afford a far larger total of pleasure in the same time by reason of their duration. The other reasons why the enjoyment which lies in striving after truth is

the highest, are so well known, that I will spare my readers an enumeration of them. Moreover, no one will doubt that we owe the mass of our science, especially the abundance and elaboration of its material, to conscious reason.

9. *The support of artistic production by conscious labour and criticism.*—I can here appeal in the main to what has been said in Chap. V., B. Although the Unconscious has to furnish the invention, yet in the first place criticism must step in to prevent feeble execution and to purify what is good from excess of phantasy; and secondly, conscious work must fill up the pauses, when the inspirations of the Unconscious are silent, and the conscious concentration of the will must carry the work to completion with iron industry, if enthusiasm for the same is not to perish of ennui on the road.—

What has been hitherto said with regard to the value of conscious reason and knowledge could, having regard to our main object, only consist of hasty hints, which may have been all too trite; the opportunities for interesting psychological remarks could not but be passed over unused, and the living clothing of the dry abstraction be left to the reader, and yet such a comparison could not be omitted, in order to offer a counterpoise to the value of the Unconscious, which was made prominent in all the earlier chapters.

I may perhaps be permitted to state these points quite succinctly once again.

1. The Unconscious forms and preserves the organism, repairs its inner and outer injuries, appropriately guides its movements, and mediates its employment by the conscious will.

2. The Unconscious supplies every being in its instinct with what it needs for self-preservation, and for which its conscious thought does not suffice, *e.g.*, man the instincts for comprehending sense-perception, for the formation of language and political constitutions, and many other things.

3. The Unconscious preserves the species through sexual and maternal love, ennobles it through selection in sexual love, and conducts the human race historically steadily to the goal of its greatest possible perfection.

4. The Unconscious often guides men in their actions by hints and feelings, where they could not help themselves by conscious thought.

5. The Unconscious furthers the conscious process of thought by its inspirations in small as in great matters, and in mysticism guides mankind to the presentiment of higher, supersensible unities.

6. It makes men happy through the feeling for the beautiful and artistic production.—

If now we institute a comparison between the Conscious and Unconscious, it is first of all obvious that there is a sphere which is always reserved to the Unconscious, because it remains for ever inaccessible to consciousness. Secondly, we find a sphere which in certain beings only belongs to the Unconscious, but in others is also accessible to consciousness. Both the scale of organisms as well as the course of the world's history may teach us that all progress consists in magnifying and deepening the sphere open to consciousness; that therefore in *a certain* sense consciousness must be the higher of the two. Further, if in man we consider the sphere belonging both tc the Unconscious and also to consciousness, this much is certain, that everything which any consciousness has power to accomplish can be executed equally well by the Unconscious, and that too always far more strikingly, and therewith more quickly and more conveniently for the individual, since the conscious performance must be striven for, whereas the Unconscious comes of itself and without effort. This convenience of abandoning oneself to the Unconscious, its feelings and inspirations, is tolerably familiar, and hence the conscious use of reason is so decried in all and every one by the indolent. That the Unconscious can really outdo all the performances of

conscious reason, is what we should not only *à priori* expect of the clairvoyance of the Unconscious, but we see it also realised in those fortunate natures which possess everything that others must acquire with toil, who never have a struggle of conscience, because they always spontaneously act correctly and morally in accordance with feeling, can never comport themselves otherwise than with tact, learn everything easily, complete everything which they begin with a happy knack, and live in eternal harmony with themselves, without ever reflecting much what they do, or even experiencing difficulty and toil. In respect to action and behaviour, the fairest specimens of these instinctive natures are only seen in women, who then surpass all imagination in their bewitching womanliness.—

But now what disadvantage lies in this self-surrender to the Unconscious? This, that one never knows where one is or what one has; that one gropes in the dark, while one has got the lantern of consciousness in one's pocket; that it is left to accident, whether the inspiration of the Unconscious will come when one wants it; that one has no criterion but success, what is an inspiration of the Unconscious, and what a wrong-headed flash of whimsical fancy, on what feeling one may rely, and on what not; finally, that one does not practise conscious judgment and reflection, which can never be entirely dispensed with, and that then in any case which occurs one must put up with wretched analogies instead of rational inferences and all-sided survey. Only the Conscious one *knows* as one's own, the Unconscious confronts us as something incomprehensible, foreign, on whose favour we are dependent; the Conscious is possessed as ever-ready servant, whose obedience may be always compelled; the Unconscious protects us like a fairy, and has always something uncomfortably demonic about it. I may be proud of the work of consciousness, as *my own* deed, the fruit of my own hard labour; the fruit of the Unconscious is as it were a gift of the gods, and man only its favoured messenger; it can therefore only teach

him humility. The Unconscious is, as soon as it is there, complete from top to toe, has no judgment on itself, and must therefore be taken just as it is,—the Conscious is its own measure, it judges itself, and improves itself, and is to be changed any moment, as soon as a newly-gained cognition or changed circumstances require it. I know what in my consciously obtained result is good, and what it lacks for perfection, therefore it gives me the feeling of security, because I know what I have; but also that of modesty, because I know that it is still imperfect. The Unconscious leaves no room for improvement. A man can never acquire greater perfection in the works of the Unconscious, because his first as his last appear as involuntary inspirations,—consciousness contains in itself the infinite perfectibility of the individual and of the race, and therefore fills man with the infinite striving after the perfection which blesses. The Unconscious is independent of the conscious will at any moment, but its functioning is altogether dependent on the unconscious will, the fundamental emotions, passions, and main interests of mankind, —the Conscious is subject to the conscious will at every moment, and can entirely emancipate itself from interest and the emotions and passions. Action in conformity with the inspirations of the Unconscious consequently exclusively depends on the innate and acquired character, and is good or bad accordingly,—action from consciousness may be regulated according to principles which reason dictates.

After this comparison there will be no hesitation in admitting consciousness to be *for us* the more important and herewith confirming our previous conclusion from the organic series and the progress of history. Wherever consciousness is able to replace the Unconscious, it *ought* to replace it, just because it is to the individual the higher, and such objections to it as that the constant application of conscious reason renders pedantic, costs too much time, &c., are mistaken, for pedantry only arises from *imperfect*

use of the reason, when in applying general rules one does not take account of the *particular differences*, and reflection costs too much time only with deficient material of knowledge and unsatisfactory theoretical preparation for practice, or with irresolution, which can only be obviated by the use of reason itself. One ought, therefore, to try to expand the sphere of conscious reason as much as possible, for therein consists all the progress of the world-process, all the salvation of the future. That this sphere is not positively transgressed, for that provision is made by its impossibility; but another danger certainly lurks in such an attempt, and this is the place for warning on that head. Conscious reason, namely, is only denying, criticising, contrasting, correcting, measuring, comparing, combining, classifying, inducing the general from the particular, ordering the particular case according to the general rule; but it is never creatively productive, never inventive. Here man is entirely dependent on the Unconscious, as we have seen before, and if he loses the faculty of hearing the inspirations of the Unconscious, he loses the spring of his life, without which he would drag on his existence monotonously in the dry schematism of the general and particular. The Unconscious is, therefore, *indispensable* for him, and woe to the age which violently suppresses its voice, because in one-sided over-estimate of the conscious-rational it will only give heed to the latter. Then it falls irrecoverably into a vapid, shallow rationalism, which struts about in childish senescent knowingness, without being able to do anything positive for its posterity, as the time of the Wolff-Mendelssohn-Nicolai mock-enlightenment at which we now smile. Not with rude fist should one crush the tender germs of the unconscious inspirations, when they shall come again, but watch for them with childlike devotion, and tenderly touch and cherish them. And this is the danger to which every one is exposed who one-sidedly tries to make his existence entirely dependent on conscious reason, when he desires

to transfer it to art and feeling and everything, and tries to renounce the rule of the Unconscious wherever it seems to him possible. Wherefore occupation with the arts is so necessary a counterpoise to the rationalistic education of our time, as that in which the Unconscious finds its most immediate expression, certainly not such a technical art-exercise as is carried on at the present day from fashion and vanity, but initiation into the feeling for the beautiful, into the comprehensive and the true spirit of art. Equally important is it to make youth more acquainted with animal life as the unadulterated spring of pure Nature, in order that it may learn to understand in it its own essence in simplified form, and may quicken and refresh itself therein as a relief from the unnaturalness and distortion of our social states. Further, one ought to be quite particularly on one's guard against making the female sex too rational, for where the Unconscious must first be reduced to silence, success is only attained at the cost of repulsive caricatures; but where the unconscious tendency harmonises with the demands of consciousness, it is a useless and in general injurious task. Woman namely is related to man, as instinctive or unconscious to rational or conscious action; therefore the genuine woman is a piece of Nature, on whose bosom the man estranged from the Unconscious may refresh and recruit himself, and can again acquire respect for the deepest and purest spring of all life. And to preserve this treasure of the eternal womanly, the woman also should be as far as possible shielded by the man from all contact with the rough struggle of life, where it is needful to display conscious force, and should be restrained in the sweet natural bonds of the family. Undoubtedly also the high worth of woman for man is found only in the period of transition, when the division between Conscious and Unconscious has already taken place, but the reconciliation of the two has not yet been completed. This transitional stage in which at the present day all civilised nations still are,

will also not be spared the individual in his period of development for the whole future, and therefore the eternal womanly will remain for all time an indispensable, complementary, and educating moment for the youth of the male sex. It is not saying too much that for a young man noble female intercourse is far more helpful than male, and in a greater degree the more philosophical the man's bent; for female intercourse is related to the male, as the survey obtained in actual life to the survey in books. Lack of male intercourse may be compensated by books, of female never.—Lastly, we ought constantly to keep before our own and others' eyes all that we owe to the Unconscious, as a counterpoise to the advantages of conscious reason, in order that the already half-exhausted spring of everything true and good may not completely dry up, and humanity enter upon a premature old age; and to direct attention to this need was one powerful impulse more, determining me to reduce to writing the thoughts presented in this work.

C.

METAPHYSIC OF THE UNCONSCIOUS.

"Come to Physics, and see the Eternal!"—SCHELLING.

I.

THE *DIFFERENTIAE* OF CONSCIOUS AND UNCONSCIOUS MENTAL ACTIVITY AND THE UNITY OF WILL AND IDEA IN THE UNCONSCIOUS.

1. *The Unconscious does not fall ill*, but conscious mental activity can sicken if its material organs suffer disturbances, whether from bodily causes, or through violent shocks, arising from violent mental emotions. This point, so far as we are able to enter upon it, has been already touched upon in the chapter on the *Vis Mediatrix* (vol i. 161–168).

2. *The Unconscious does not grow weary*, but all conscious mental activity becomes fatigued, because its material organs become temporarily unserviceable, in consequence of a quicker consumption of material than nutrition can repair in the same time. Undoubtedly, fatigue may be avoided by occupying a different sense, or by changing the object of thought or of sense-perception, because then other organs and parts of the brain are brought into requisition, or at least the same organs are constrained to a different kind of activity; but the general fatigue of the central organ of consciousness is not to be prevented, even by the change of objects, and with every new object takes place the sooner, the longer attention has already been absorbed with other objects, until at last complete exhaustion ensues, which is only to be compensated by fresh absorption of oxygen during sleep. The more we approach the sphere of the Unconscious the less is fatigue observable, as, for example, in the department of the feelings, and the less defined they are in

consciousness, for so much the more does their proper essence belong to the Unconscious. Whilst a thought is probably not to be retained in consciousness without interruption for more than two seconds, and thinking grows weary in a few hours, one and the same feeling remains, with fluctuating intensity it is true, but uninterruptedly, often for days and nights, nay, for months, and if it at last becomes blunted, yet, in contrast to thinking, the receptivity for other feelings does not appear to be impaired, and these then do not grow weary earlier than they would otherwise have done. The latter assertion only so far needs limitation, as the frame of mind is to be taken notice of at the same time.—Before falling asleep, when the intellect becomes weary, the feelings which oppress us emerge the more powerfully because they are not impeded by thoughts, so strongly indeed that they often prevent sleep. Even in dream vivid feelings are often much more frequent than clear thoughts, and very many dream-images manifestly owe their origin to present feelings. Further, let any one remember the restless night before an important event; the waking of the mother at the slightest cry of her child, accompanied with total insensibility to other stronger noises; the awaking at a fixed hour, if a decided volition has been exerted to that end, and the like. All this proves the unwearied persistence of the feelings, the interest and the will in the Unconscious, or even with quite weak affection of consciousness, whereas the wearied intellect rests, or at the most idly gazes on the juggle of dreams. Where we have to do with that condition which, of all those that are at all accessible to our observation, lies most deeply in the Unconscious and least emerges into consciousness, the ecstasy of the mystics, there, agreeably to the nature of the case, the fatigue is also reduced to a minimum, for "a hundred years are as one hour," and even bodily fatigue, as in the winter sleep of animals, becomes almost obliterated by the incredible slackening of all organic

functions;—think of the ever-praying pillar-saints, or the Indian penitents and their distorted postures.

3. *All conscious Ideation has the form of Sensibility; unconscious Thought can only be of a non-sensuous kind.*—We think either in images, when we directly receive the sense-impressions and their transformations and combinations from memory, or we think in abstractions. These abstractions are, however, also merely abstracted from sense-impressions, and however much is allowed to *drop out* in abstracting, so long as *anything* is retained *at all*, it can only be something that *already inhered* in the whole *from* which abstraction was first made, *i.e.*, even the abstract ideas are for us only *remnants of sense-impressions*, and have consequently the *form of sensibility*.—That the sense-impressions which we receive from things have no resemblance to these is already sufficiently known by natural science. Further, every sense-perception is *eo ipso* united with consciousness, *i.e.*, it always *excites* the latter, whenever it does not light on an already existing sphere of consciousness and is apperceived by this. The Unconscious, accordingly, if it willed to represent things in the form of sensibility, would not only represent them inadequately, but it would always, in this mode of perception, step out of the sphere of unconscious into that of conscious mental activity, as it does in fact do in the individual consciousness of organisms. If we then inquire into the nature of the *unconscious* spiritual activity of the Unconscious, it follows from what has been said that it can *not* take on the form of *sensibility*. But now as *consciousness* on its part, as we have seen above, can represent nothing at all unless in the form of sensibility, it follows that now and never can consciousness *frame a direct conception* of the mode and manner in which the unconscious idea is presented; it can only know *negatively* that the former is represented in *no* way *of which* it can form any idea. One can, at the most, form the very probable supposition that things are repre-

sented in the unconscious idea as they are in themselves, since it would be far from intelligible why things should *appear* to the Unconscious *otherwise* than they *are;* rather things *are what* they are just because they *are represented* by the Unconscious thus, and not otherwise. Certainly this explanation throws no light on the nature of the idea itself, and we do not become wiser in respect to the mode and manner of unconscious representation.

4. *The Unconscious does not vacillate and doubt;* it needs *no time* for reflection, *but instantaneously grasps the result* at the same moment in which it thinks the whole logical process that produces the result, all at once, and not *successively*, which is the same thing as not thinking it at all, but discerning the result immediately in intellectual intuition with the infinite penetration of the purely logical. This point also we have already often mentioned, and have everywhere found so thoroughly confirmed, that we might employ it as an infallible criterion, in order to decide, in any particular case, whether we had to do with the action of the Unconscious or with a conscious performance. Wherefore the conviction of this proposition must be essentially gained from the sum of our previous considerations.—Here I shall only add the following:—The ideal philosophy demands an intelligible world without space and time, which is opposed to the phenomenal world, with its forms valid for conscious thought and being, space and time. How *Space* is *posited* only *in* and *with* Nature we shall see later on; here we are concerned with *Time.* Now, if we may assume that the Unconscious compresses every process of thought, along with its results, into a *moment, i.e.*, into *no time*, the thinking of the Unconscious is *timeless*, although still *in time*, because the moment in which there is thought has its temporal place in the remaining series of temporal phenomena. If we, however, reflect that this moment in which there is thought is only perceived in the coming-to-manifestation of its

result, and the thought of the Unconscious in each special case only acquires existence for a definite entrance into the phenomenal world (for it does not need reflections and resolutions), the conclusion is obvious that the thought of the Unconscious is only so far *in time* as the entering into manifestation of this thought is in time, but that the thought of the Unconscious, *apart* from the phenomenal world and from entrance into it, would in fact be not only *timeless*, but also *non-temporal, i.e., out of all time.* Then, too, we should cease to speak of ideational *activity* of the Unconscious in the strict sense; but the world of possible representations would, as ideal existence, be enclosed in the bosom of the Unconscious, and the activity, as being something temporal, at least time-*positing*, in its very notion, would only begin in the moment that from this quiescent ideal world the one or other of all possible presentations enters into real manifestation, which comes to pass precisely through this, that it is laid hold of by the will as its content, as we shall subsequently see at the end of the present section. We should have hereby comprehended the realm of the Unconscious as the metaphysically tenable side of Kant's intelligible world.—It is in thorough agreement with this that *duration* only enters into conscious thought through the *material organ* of consciousness; that conscious thought only requires time because the cerebral vibrations on which it rests require time, as I have briefly shown in Sect. B., chap. viii. (vol. i. pp. 346, 347).

5. *The Unconscious does not err.*—The proof of this proposition must be confined to establishing that that which, on a superficial view, might be taken for errors of the Unconscious, on nearer inspection could not be so regarded. Thus, *e.g.*, the supposed errors of instinct may be reduced to the four following cases:—

(*a.*) Where no special instinct exists, but merely an organisation, which, owing to the exceptional strength of

certain muscles, preferentially contracts these muscles. Thus, *e.g.*, the aimless butting of young cattle as yet destitute of horns, or when the secretary-bird (serpent-eater) crushes all its food with its strong legs before devouring it, although this has only a purpose in the case of living snakes. In these cases the organisation is there to render superfluous, and to supply the place of, a special instinct which would be suitable in certain cases; the organisation, however, urges to the same movements that are appropriate in certain cases, in other cases, also, where they are superfluous and useless. But as the Unconscious does the work once for all through the machinery of the organisation which it otherwise would have to do in each single case, one would still have to recognise this arrangement itself as suitable on account of the saving of energy to the Unconscious, if in certain cases this organisation acted not only superfluously but even inappropriately and injuriously, and if only the number of the cases where it is suitable considerably preponderates. But of this no single example is known to me.

(*b.*) Where instinct is killed by unnatural habits, a case which frequently occurs in man and the domestic animals, *e.g.*, when the latter devour on the pastures poisonous weeds and plants which they avoid in a state of nature, or when man artificially accustoms many animals to a food contrary to their nature.

(*c.*) Where instinct, for accidental reasons, is not functional; thus the inspiration of the Unconscious is entirely wanting, or occurs in so feeble a degree that other opposing impulses overcome it, *e.g.*, when an animal does not shun its natural enemy, and thereby falls a sacrifice to one whom other animals of its kind are wont instinctively to flee, or when maternal affection is so slight in a pig that the desire for food leads it to devour its offspring.

(*d.*) Where instinct, indeed, performs its functions correctly on the occurrence of a conscious idea, but this conscious idea contains an error. If, *e.g.*, a hen broods on

a piece of chalk rounded like an egg that has been placed under it, or the spider carefully nourishes a bundle of cotton substituted for its ovisac, in both cases it is the conscious idea that errs in consequence of defective sense-perception, which takes the chalk for an egg, the ball of cotton for an ovisac. Instinct, however, does not err, for it quite rightly makes its appearance on the presentation. It would be unreasonable to require that the clairvoyance of instinct should be here manifested to correct the error of conscious representation; for the clairvoyance of instinct always is only concerned with just those points which conscious perception is in general not able to attain, but not with those for which the mechanism of sense-knowledge suffices in all ordinary cases. But even if this claim were set up, one could never say that the Unconscious erred, but only that it did not come into play with its clairvoyance when it should have come into play.

To these four cases everything might easily be referred which one might be tempted to regard as apparent errors of instinct. What in the human mind might be taken for false and bad inspirations of the Unconscious might be still more easily refuted. When one hears of mistaken clairvoyance, one may be as sure one is dealing with intentional or unintentional deception, as in dreams which do not prove true, that they are not suggestions of the Unconscious. In the same way, one may take it for granted beforehand that all the morbid and worthless excrescences of mysticism or in artistic conceptions do not spring from the Unconscious, but from consciousness, namely, from morbid excesses of the fancy, or from perverted education and formation of principles, judgment, and taste. Lastly, one must distinguish how far, and to what degree, the influence of the Unconscious has reached in any particular case. For I may, *e.g.*, brood over some invention, and have already made a start in a particular direction; when, now, I am cracking my brain over a certain point which seems to me to be alone wanting to complete

the whole, I shall certainly have to thank the Unconscious if this suddenly occurs to me. But now the invention need by no means be herewith finished in a serviceable fashion, for I may possibly have erred in my belief that only this one point was wanting to complete the whole, or the whole may be completed but be worth nothing at all; and yet one cannot assert that the suggestion of the Unconscious was mistaken or bad, for it was decidedly good and right as regards the point which I was in search of, only the point sought was not the right one. If another time a suggestion of the Unconscious instantly shows the invention complete in all its outlines, this latter inspiration has only gone further; but correct and apt for the purpose, so far as they go, they are both, as are all influences of the Unconscious.

6. *Consciousness only acquires its value by means of memory, i.e.*, through the property of the cerebral vibrations to leave behind abiding impressions or molecular changes of such a kind, that in future the same vibrations are more easily excited than heretofore, in that the brain now responds more easily, as it were, to the same stimulus. This makes possible the comparison of present perceptions with former ones, without which all formation of conceptions would be almost impossible; in general terms, it renders possible the collection of *experiences*. Conscious thought increases in perfection according to the abundance of the materials of memory, the store of conceptions and judgments, and the exercise of thought. *To the Unconscious, on the other hand, we can ascribe no memory*, since we can comprehend the latter only with the help of the impressions persisting in the brain; and memory may, in whole or in part, be temporarily or for ever lost by injuries of the brain. The Unconscious also thinks everything which it needs for a special case implicitly in an instant; it *therefore needs to institute no comparisons;* just as little does it need *experiences*, since, in virtue of its clairvoyance, it knows or

can know everything as soon only as the will requires it with sufficient urgency. The Unconscious is therefore always perfect, so far as it can be in conformity with its nature, and a further perfection in this direction is unthinkable. If advance is to be made beyond that, it must take place through a change of the direction itself, *i.e.*, through the transition from the Unconscious into consciousness.

7. *In the Unconscious, Will and Representation are united in inseparable unity;* nothing can be willed which is not presented, and *nothing can be presented which is not willed.* In consciousness, on the contrary, undoubtedly also nothing can be willed which is not presented, but something may be presented without its being willed. *Consciousness is the possibility of the emancipation of the intellect from the will.*—The impossibility of a volition without presentation has been already discussed in Sect. A., chap. iv.; here we are concerned with the impossibility of an unconscious idea without the conscious will to its realisation, *i.e.*, without this unconscious idea being at the same time content or object of an unconscious will. This relation is clearest in instinct and the unconscious presentations which have reference to bodily processes. Here every single unconscious idea is accompanied by an unconscious will, which stands to the general will of self-preservation and preservation of the species in the relation of willing the means to the willing of the end. For that all instincts, with few exceptions, follow the two main purposes in nature—preservation of self and of the race—can hardly be doubted, whether we look to the origin of reflex movements, the healing actions of nature, organic formative processes and animal instincts, or to the instincts concerned with the understanding of sensuous perception, the formation of abstractions and indispensable ideas of relation, the formation of language, or to the instincts of shame, disgust, selection in sexual love, &c. It would

be a bad look-out for men and animals if even only one of these were wanting to them, *e.g.*, language or the formation of ideas of relation, both alike important for animals and man. All instincts that do not appertain to the preservation of self or the species have reference to the third chief end in the world—perfection and *ennoblement* of the species—a something that especially makes its appearance in the human race. Under the general willing of this end falls the willing of all special cases as means, where the Unconscious furthers historical progress, be it in thoughts (mystical acquisition of truths) or deeds, whether in the individual (as in heroes of history), or in masses of the people (as in the constituting of states, migrations of nations, crusades, revolutions of a political, ecclesiastical, or social kind, &c.) There still remains the action of the Unconscious in the sphere of the beautiful and in that of conscious thought. In both cases we have already been obliged to confess that the incursion of the Unconscious is, indeed, independent of the conscious will of the moment, but rather altogether dependent on the interior interest in the object, on the deep needs of the mind and heart for attaining this particular goal; that it is, it is true, tolerably independent of the circumstance whether one is consciously occupied just at the moment with the subject, but that it very much depends on a lasting and urgent occupation with the same. If, now, the profound spiritual interest and need of the heart is already itself a will essentially unconscious, only in slight degree entering into consciousness, or at least, like the earnest occupation with a subject, is highly adapted to arouse and to excite the unconscious will; if, further, the suggestion ensues the more easily, the more profound is the interest, and the more it has withdrawn from the clear heights of consciousness into the dark abysses of the heart, *i.e.*, into the Unconscious, we shall certainly be authorised in assuming in these cases likewise an unconscious will. In the mere apprehension

of the beautiful, however, we shall certainly be obliged to acknowledge an instinct which belongs to the third main purpose, the perfection of the race, for one has only to think what the human race would be, what, in the most fortunate case, it could attain to at the end of history, and how much more wretched this wretched human life would become, if nobody knew the feeling of the beautiful.

There only remains yet one more point, which perhaps will present no difficulty to most readers; I mean clairvoyance in dreams which come true, visions, spontaneous and artificial somnambulism. But whoever accepts these phenomena will be soon convinced that the unconscious will is always co-operative. When clairvoyance refers to the prescribing of remedies to one's self, this is at once evident, and a clairvoyant prescription of remedies for other persons I should be strongly inclined to doubt, unless they were intimates, whose welfare was almost as much a matter of concern to the clairvoyants as their own. Prophetic dreams, forebodings, visions, or flashes of thought, which have other objects, refer either to important points of one's own future, warning against danger, consolation for sorrow (Goethe's vision of his double), and the like, or they make disclosures concerning beloved persons, wife and child, announce, *e.g.*, the death of the absent, or imminent misfortune; or, lastly, they relate to events of awful magnitude and extent, which touch every human heart, *e.g.*, the conflagration of large cities (Swedenborg), especially of one's native town, &c. In all these cases one sees how closely the suggestion of the Unconscious is bound up with the inmost volitional interest of mankind; in all these cases one is also, therefore, entitled to assume an unconscious will, which stands for *the universal interest made specific for this particular case yet unknown to consciousness.* Never will the clairvoyance of a human being light of itself on things which are not most intimately interwoven with the core of his own being; but as for the answers of artificial somnambulists to indifferent ques-

tions, I may be permitted to doubt their derivation from the Unconscious, as much as I feel bound to contemn those magnetisers as vain braggarts or deceitful charlatans, who do not scruple to put other questions to somnambules than such as have reference to personal well-being. Although the somnambulistic state is more receptive for the suggestions of the Unconscious than any other, yet only a very small part of what occurs to a somnambulist is the suggestion of the Unconscious, and experienced magnetisers know well enough how much one has to take care lest the fancies and dissimulation peculiar to women deceive even in the somnambulist state, without the somnambulist herself having the conscious intention to deceive.

We may assume, as result of this inquiry, that we know no unconscious idea which may not be united with unconscious will, and that, too, when we consider that the unconscious idea is something quite other than that which appears in consciousness as conception or inspiration of the Unconscious; the former and the latter are rather related as essence and phenomenon, but at the same time also as cause and effect. We shall thus find it very instructive that the unconscious will directly united with the unconscious presentation, *which represents the application of the general interest to the particular case*, consists in nothing else than *in the willing of the realisation of its unconscious representation*, if by realisation we understand manifestation in the natural world, and, moreover, immediately *in consciousness as representation in the form of sensibility by excitation of the appropriate cerebral vibrations.* This is, however, the *true unity of will and idea*, that the will wills absolutely nothing but the realisation of its own content, *i.e.*, the representation united with it. On the other hand, if we consider consciousness and the grand apparatus brought into play for its production, and remember from the last chapter of the foregoing section what we shall more exactly prove in chapter xiii. of the present section, that all progress in the scale of beings and

in history consists in the expansion of the sphere where consciousness prevails, but that this extension of rule can only be conquered by liberation of consciousness from the sway of passion and interest, in a word—the will—and by sole subjection to conscious reason, the conclusion is obvious that the progressive *emancipation* of the intellect from the will is the proper motive and main purpose of the creation of consciousness. This would be, however, absurd if the Unconscious as such already contained the possibility of this emancipation, for the whole vast apparatus for introducing consciousness would then, with this intention, be superfluous. From this, and from the phenomenon that we are nowhere acquainted with an unconscious idea without unconscious will, I conclude that will and idea can only exist in inseparable unity in the Unconscious; for it would be, to say the least, very wonderful if unconscious representation separately existed and we nowhere observed it.—To this may be added the following confirmatory consideration.—

Thought or ideation, as such, is perfectly self-contained, has no volition at all, no endeavour, or anything like it; it has also, as such, no pain or pleasure; is therefore also quite unconcerned. All this does not attach to ideation, but to volition. Consequently, ideation can never find in itself a moment impelling to change; it will comport itself absolutely *indifferently*, not only with respect to its being thus or thus, but also with respect to its being or not-being, since all this is quite indifferent to it, because it is in fact altogether unconcerned. It follows from this that ideation, since it has neither an *interest* in its own existence, nor any *endeavour* after the same, can also find in itself no ground at all for passing from non-being into being, or, if one prefers, from *potential* being into *actual* being, *i.e.*, that it requires for the existence of every *actual* representation a basis outside ideation itself. This basis is, for conscious ideation, matter in the form of sense-impressions or cerebral vibrations; for unconscious idea-

tion it cannot be this, otherwise it too would attain to consciousness, as will be shown in the third chapter; consequently for this material substratum there only remains the unconscious will. This perfectly accords with our experience, for everywhere it is the interest, the definite will, which, directed to the particular case, compels the idea into being. The particular will, however, besides the power of volition, shows also a definite (ideational) content, and this *content* it is which determines the quality or essence of the unconscious idea of the next moment, which it, however, could not determine if its existence were not demanded by the *willing* of the foregoing moment, and made possible by the persistence of the form of volition even up to this moment.—I will here once more add the remark, that since the act immediately follows the will, there can be no spiritual activity in the Unconscious save at the moment of the commencing act. Even when the will is too weak for the realisation of its content and for overcoming the present resistance, this holds good; for either the deed consists in the abortive *attempt*, or the Unconscious immediately thinks the appropriate preparatory means *instead of* the end. But, possibly repeated impulses on the part of the Unconscious may be requisite, namely, when the mechanical progress of the act stumbles upon obstacles which must be overpowered by *modified* action.

An objection might here be raised, namely, that the Unconscious *wills* only the final results, but must think the whole thought-process leading to these results; but whoever has attentively read No. 4 of this chapter will have already found there the answer to this objection. Unconscious thought embraces all the terms of a process, reason and consequent, cause and effect, means and end, &c., in a single moment, and thinks them, not before, beside, or beyond, but *in* the result itself; it never thinks them except *through* the *result*. Therefore, this thinking cannot be regarded as a *special* thinking outside the result; it is

rather implicitly contained in the thinking of the result, without ever being explicated; consequently the result is that which is alone thought in our ordinary sense, and the proposition holds that only that can be unconsciously thought which is willed.—Moreover, even in the ordinary category of unconscious thought, in means and end, one may say that the end implicitly thought in the idea of the willed means is also implicitly willed.

According to the foregoing, the sole *activity* of the Unconscious consists in willing, and the unconscious representation filling the will is only a non-temporal content, merely dragged along with it, as it were, into time. *Volition* and *activity* are accordingly identical or reciprocal notions. Only through them is Time posited; only through them is the idea hurled from *potential* into *actual* being, from being in the essence into being in the phenomenon, and therewith into time. Quite otherwise is it with the conscious idea, which is a product of different factors, of which one, the cerebral vibrations, is from the first subject to duration.

II.

BRAIN AND GANGLIA AS CONDITIONS OF ANIMAL CONSCIOUSNESS.

ALMOST all naturalists, physiologists, and physicians are materialists, and the more the knowledge and method of physics and physiology is diffused among the educated public, the more does the materialistic view of the world gain ground. What is the cause of this? The simplicity and impressive evidentness of the facts on which the materialistic conception of the animal and human soul, the only spiritual being known to us, is supported. Only those unacquainted with these facts, as the unscientific multitude, or the learned world without physical and physiological knowledge, or those who approach these facts with the preconceived opinions of religious or philosophic systems, can alone remain outside their influence; they must absolutely convince every unprejudiced thinking man, because they need only to be taken just as they are; they declare their meaning with such naive plainness that it is not at all necessary to look for it. And this naive clearness and directness, this forcible self-evidence, which can only be denied with violence, this it is which secures for the materialistic conception of the mind so great a superiority over the difficult and subtle deductions and probabilities, over the arbitrary assumptions and often distorted consequences, of the spiritualistic psychology, which induces all clear heads averse to mysti-philosophic speculation to enrol themselves under the banner of Materialism, which is simple as the Nature that teaches it, and clear and precise in all its correct consequences as this its august mother. That Materialism

thereby offends the religious systems can in our time only gain it the more adherents; but that it contradicts speculative philosophy, that does not trouble it at all; for how few men have a speculative need; how far fewer still philosophical culture? Accordingly Materialism has neither the need nor the capacity to investigate the not-understood abstractions, such as force, matter, &c., of which its system consists, and it comports itself to the higher questions of philosophy partly sceptically, in that it denies that their solution lies on this side the limits of the human understanding, partly it denies the title of these questions altogether. Thus it feels quite comfortable in its skin in all directions, and is perfectly contented with the daily progressive discoveries of the natural sciences, in the good faith that everything which man calls experience must be derived from the pursuit of the special sciences. It is, accordingly, no wonder that Materialism gains whereas Philosophy loses ground; for only a philosophy *which takes full account of all the results of the natural sciences,* and accepts without reservation the perfectly legitimate point of departure of Materialism, only such a philosophy can hope to make a stand against Materialism, if at the same time it fulfils the condition of being universally intelligible, which the philosophy of Identity and absolute Idealism unfortunately is not.

The first attempt to receive Materialism into Philosophy in an intelligible fashion was made by Schopenhauer, and not the least part both of his merit and of his growing popularity is due to this attempt. But his compromise was unsatisfactory; it allowed Materialism the intellect, and reserved to speculation the will. This violent dismembering is his weak point; for if once conscious ideation and thought is handed over to Materialism, it has full right to claim also conscious feeling, and therewith conscious desire and volition, since the physiological phenomena have the same expression for all conscious activities of mind. It is entirely inconsequent of Schopenhauer to refer the stores

of memory, together with the intellectual foundations, talents, and aptitudes of the individual, to the constitution of the brain, and to exclude from the same and to hypostatise as an individual metaphysical essence, in defiance of his fundamental monistic principle, the character of the individual, which just as easily, if not more easily, is capable of such an explanation. In fact, there are no means of overturning the first fundamental proposition of Materialism, " All conscious mental activity can only come to pass by normal function of the brain," but by the ignoring or subtle explaining away of facts. But now, as long as any one knows or will know no other than conscious mental activity, this proposition asserts, "*All* mental activity can only come to pass through brain function." The conclusion is obvious: " Either all mental activity is pure function of the brain, or a product of brain function and something else, which is inherently incapable of expression, but is purely potential, and only attains expression in and by the normal brain function, which now appears as mental activity." It is evident that a decision between these alternatives, all others being laid aside as useless, meaningless ballast, is hardly to be evaded. Quite otherwise does the matter appear as soon as one already recognises unconscious mental action as the original and primary form, without whose assistance conscious mental activity would be paralysed. Then the proposition only says, " *Conscious* mental activity can only take place through the function of the brain." With respect to unconscious mental activity, on the other hand, it says nothing at all; it remains, therefore, since all the phenomena demonstrate their independence of brain functions, as something self-dependent, and only the form of consciousness appears conditioned by matter.

We pass on now briefly to present the facts, the theoretical expression for which is the above proposition.

1. The brain is in formal and material respects the highest product of organic formative activity.

"We find in the brain mountains and valleys, bridges and aqueducts, beams and arches, vices and hoes, claws and Ammon's horns, trees and sheaves, harps and sounding staves, &c., &c. Nobody has perceived the significance of these strange forms" (Huschke in "Skull, Brain, and Soul of Man").

There is no animal organ which has tenderer, more wonderful, more varied forms, finer and more peculiar structure. The ganglionic cells of the brain send off primitive fibres, and are in part mutually connected and in part surrounded by the same. These primitive fibres, hollow tubes filled with an oily, coagulable content, about $\frac{1}{1000}$th line in thickness, again intertwine and cross one another in the strangest fashion. Unfortunately the difficult anatomy of the brain is still as backward as its chemical investigation; but even from the latter we already know this much, that the chemical composition of the brain is by no means as simple as was formerly believed; that it is exceedingly different at different places; that the peculiar cerebral fats with their phosphorus content play a great part in it, and find other matters there which occur in no other tissue in the same way, *e.g.*, cerebrin and lecithin. For the rest, how backward our chemistry still is in regard to such investigations, one may infer from the fact that it cannot distinguish blood or pus which is infected with contagious matter from healthy blood; that the differences between isomeric substances (of the same composition, but of unlike qualities owing to different atomic position, as is shown by the different refraction of light and rotation) frequently vanish on analysis, so that it is only now beginning to discover a number of finely distributed metals by means of spectrum analysis, minute quantities of which in organic substances may be of the greatest importance. All these things acquire the more importance the higher the organic tissues with which one is concerned.

2. In the brain the change of material is more rapid

than in any other part of the body, wherefore also the flow of blood is disproportionately much stronger. This points to a concentration of vital activity in the brain, such as takes place in no other part of the body.

3. The brain (by which in this section the cerebrum is always alone to be understood) has no direct importance for the organic functions of bodily life. This is proved by the experiments of Flourens, who showed that animals from which the brain had been removed can live and thrive for months and years. Care must certainly be taken that the operation itself and the accompanying loss of blood be not too violent, and does not reduce too much the force of the animal; wherefore the experiment can only perfectly succeed in those animals from which the brain may be removed without too much difficulty, *e.g.*, fowls. From these first three points it may be concluded that the brain, the flower of the organism and the seat of the most vital activity, must have a *mental* destination, since it has *no corporeal* one.

4. With increasing perfection of the brain or of the ganglia representing it increases the mental capacity in the animal kingdom, whereas the corporeal functions of all animals, clever or stupid, may, as a rule, be performed equally well. As low down as the Insects it is strikingly manifest how the size of the cephalic ganglia is proportional to the intelligence of the orders and species. The Hymenoptera have in general larger ganglia than the stupid beetles, and they are particularly large in the clever ants. In the case of the vertebrates, one must make the inner space within the skull the ground of comparison, as this includes the central organs of motion, which of course must correspond in size to the mass of nerve and muscle of the animal, in order to be able to expend the requisite energy on its motor impulses. If we now merely consider the cerebrum proper, there appears in animals of not too different size a clear parallelism between quantity of brain and intelligence. So far, however, as in animals of very different

size (*e.g.*, very small and very large dogs, canary birds and ostrich), this parallelism appears disturbed, a qualitative compensation of the cerebrum is distinctly perceptible, especially by abundant and deep convolutions and furrows.

5. The mental tendencies and executive capacity of mankind are in proportion to quantity of brain, so far as the quality of the same does not give rise to exceptions. "According to the exact measurements of Peacock, the weight of the human brain gradually and very rapidly increases up to the twenty-fifth year, remains at this normal weight up to the fiftieth, and thenceforward gradually diminishes. According to Sims, the brain, which increases in bulk till the thirtieth or fortieth year, only attains the maximum of its volume between the fortieth and fiftieth year. The brain of old people becomes atrophied, *i.e.*, smaller; it shrivels, and there arise hollow spaces between the several convolutions, which before were firmly attached to one another. By this the substance of the brain becomes tougher, the colour greyer, the blood-content less, the convolutions narrower, and the chemical constitution of the brain of the old man, according to Schlossberger, again approaches that of the earliest life-period" (Büchner, Force and Matter, 5th edit., p. 109). The average weight of the brain, according to Peacock, amounts in the man to fifty, in the woman to forty-four ounces; according to Hoffmann, the difference amounts only to two ounces. Lauret drew from the measurements of two thousand heads the result, that both the circumference as well as the diameter, measured at different places, is always less in women than in men. Whilst the normal weight amounts to three to three and a half pounds, the brain of Cuvier weighed over four pounds. Inherited mental imbecility always shows a surprisingly small brain; conversely abnormal smallness of brain is always combined with imbecility. Panhappe proves from 782 cases the gradual diminution of the brain's weight in correspondence with the decrease of intelligence

in madness or with the depth of mental disturbance. In all cretins brain and skull are surprisingly small, the latter exhibiting assymmetry and deformity; the hemispheres in particular are wasted. The brain of the negro is much smaller than that of the European, the forehead retreating, the skull less in circumference, generally more animal; the natives of New Holland lack the higher parts of the brain in a surprising degree. Also the structure of the European skull has made no slight advance in historic times. Especially with the progress of civilisation the anterior region of the head becomes prominent at the expense of the posterior, as is proved by excavations relating to widely different times. The same relation also occurs in general between the rude and cultured classes of the present day, as, among other things, the experiences of hatmakers confirm. That here not isolated cases, but only average numbers are decisive, is matter of course; individual exceptions, *e.g.*, of clever people having a small, stupid people a large skull, must be referred partly to the thickness of the skull, partly to the difference of plan and finish, partly to the form of the convolutions and the quality of the brain.

What we know of the influence of quality is but little, but still something; *e.g.*, the child's brain is more pulpy, richer in water, poorer in fat than that of the adult; the differences between grey and white matter, the microscopic peculiarities, are only gradually formed; the so-called fibrillation of the brain, very distinct in the adult, is imperceptible in the child's brain; the plainer this fibrillation becomes, the more decided appears also the mental activity; the brain of the fœtus has very little fat, consequently little phosphorus, but the fatty matter increases until birth, and after birth tolerably rapidly. In animals also the brain has, on the average, more fat the higher they are in the scale, and the smaller the brain in proportion to the intelligence of the animal, *e.g.*, in the horse. This fat seems to be very important, for in

animals caused to starve the brain does not, like other organs, lose a part of its fatty matter.—On the number, depth, and form of the actions of the brain depends, with equal volume, the size of its surface,—a highly important factor, which may neutralise a less weight. On the average, the convolutions and furrows are the more numerous, deeper, and more complicated the higher the species of animals or race of man.

It would now be comprehensible if an exception were formed to the law of the proportion of brain mass and mental endowment by some few animals, the largest of the present day, exceeding the human brain in bulk. Nevertheless, even this apparent deviation only depends on a preponderance of those parts of the brain which serve the nervous system of the body as central organs of voluntary motion and sensation, and which, partly on account of the larger number and thickness of the nervous strands concurring in them, partly on account of the greater mechanical development of energy needful for the motion of a greater mass, cannot but show a larger volume. On the other hand, the anterior parts of the brain, which especially preside over the functions of thought, in no animal attain, *even in respect of quantity*, the same perfection as in man.

6. Conscious thinking strengthens the brain, as all activity its organs, and the manifested energy of thought is always accompanied by consumption of material. As any muscle, if it is considerably exercised, becomes stronger and increases in bulk (*e.g.*, the calves of dancers), so, too, the brain becomes more capable of thinking through exercise of thought, and increases in quality and quantity.

Albers in Bonn relates that he dissected the brains of several persons who had been exceeding mentally active for several years; in all he found the brain substance very firm, the grey matter and the convolutions strikingly developed. The increase in bulk is proved partly by the difference in the cultivated and lower ranks, partly by the

increment due to the progressive civilisation of Europe, both of which certainly only reaching an amount capable of measurement in virtue of hereditary transmission.

That all thought is connected with the consumption of the materials of the brain follows from the simple phenomenon of the fatigue of thought, which without it would be incomprehensible. Mental just as much as bodily labour not only increases the desire for food in order to replace the waste of tissue, but according to Davy's measurements even animal heat also, as is announced by accelerated breathing, which takes place in order to again decarbonise the blood, whose carbonisation is more freely induced by the quicker interchange of material.

Further, it is well known that sedentary manual occupations without bodily effort, as tailoring, cobbling, light manufacturing, are those which produce most dreamers, religious and political fanatics; whereas severe bodily manual labour leaves the brain no force for thinking; for the body, like every machine, has only a certain stock of vital force at its disposal, and if this is converted into muscular energy, there remains nothing over for the play of the cerebral molecules for thinking. Any one can see this in his own case. No one will be able during a considerable leap to carry further a train of thought once set a-going, or simultaneously to run a race and to meditate profoundly; even in slow walking one involuntarily stops when thoughts are concentrated, and not seldom the outward man falls into complete rigidity in the profoundest meditation. All this points to a consumption of vital force in thinking, or what is the same thing, a chemical consumption of material, for this produces living force.

7. Every disturbance of the integrity of the brain produces a disturbance of conscious mental activity, unless the function of one hemisphere is carried on by the corresponding part of the other hemisphere; for as every human being chiefly sees, hears, and smells with one eye,

ear, and nostril, and after one side of the sense-organs has been rendered useless sense-perception still continues by means of the other side, so every human being chiefly thinks with one half of the brain, as often the physiognomy, especially the forehead, allows us to see; and likewise after one half of the brain has been rendered partially useless, the other half can undertake the whole function of thought, as one half of the lungs the whole function of breathing. This substitution is always with the brain the rarer case, and only occurs when, in the first place, the morbid or injured part does not impair the functions of the rest of the brain, which, however, mostly takes place in one way or another, *e.g.*, through propagation of pressure, and when, secondly, the injury is of such a kind that it entirely abolishes the functions of the particular part, and does not simply render them abnormal; for then there is developed just the disturbed mental activity, which renders valueless the results of the sound functions of the other parts. If now such disturbed functions of morbid parts all at once cease, or relieve the rest of the brain of the pressure which it has hitherto experienced, the normal function of the other part of the brain again appears as clear mental activity,—a case which not seldom takes place, especially in progressive destruction of morbid parts shortly before death, and then presents the phenomenon, surprising to the layman, of a last spiritual transfiguration after long mental aberration.

In the above-mentioned experiments of Flourens on fowls with extirpated brains, the animals remained as in deep sleep, sitting on any spot where they were placed; all capability of receiving sense-impressions was completely extinguished, and they had, therefore, to be supported by artificial feeding; on the other hand, the reflex movements proceeding from the spinal cord, *e.g.*, swallowing, flying, running, were preserved. "If one removes the two hemispheres of a mammal by slices, the mental activity sinks the lower the farther the loss of substance has proceeded.

When the ventricles of the brain are reached, complete unconsciousness is wont to occur" (Valentin). "What stronger proof of the necessary connection of mind and brain will any one require than that which is afforded by the knife of the anatomist when he cuts away the soul piece by piece?" (Büchner).

Inflammation of the brain causes delusion and madness; an effusion of blood on the brain, stupefaction and perfect loss of consciousness; a lasting pressure on the brain (*e.g.*, hydrocephalus, children's dropsy), weakness of understanding and idiocy; a surcharging, *e.g.*, in the drowning and the intoxicated, or evacuation of the blood-vessels of the brain, produces swoons and loss of consciousness; the quicker blood-circulation of a simple fever produces the delirium of fever, which indeed is also a temporary insanity; pressure of blood in intoxication by alcohol introduces the mental disturbance well known as the state of drunkenness; opium, haschisch, and other narcotics, severally another state of intoxication peculiar to it, each of which is identical with certain states of frenzy.

Parry was able to suppress attacks of madness by a compression of the cervical artery, and according to Flemming's experiments the same procedure produces in the healthy sleep and flitting dreams. Short-necked men and animals are, on the average, more sanguine than long-necked, because, in consequence of less remoteness from the heart, a more vivid blood-circulation takes place in their brain. The so-called after-diseases of the brain, in consequence of more serious injuries or even internal diseases, also many apoplexies, affect quite specially the memory, either destroy it entirely or weaken it in general, or abolish memory for certain categories of knowledge, *e.g.*, merely for language, without any paralysis of the organ of language, the understanding being otherwise clear (aphasia), or exclusively for all proper names, or the language of a particular country, or the events of certain years, or notions of time (especially with destruction or rendering

inactive of particular parts of the brain). Many extremely striking examples of the foregoing, and of the recovery of the lost knowledge after easing the part of the brain in question, are to be read in Jessen's "Psychology."—Stronger proofs that memory depends on permanent changes of certain parts of the brain, which on certain stimulations contribute to the easier reproduction of former vibrations, can scarcely be desired, than that certain sets of ideas, with the becoming unserviceable of certain parts of the brain lose, and with their return to the normal state regain, the capability of re-emerging into consciousness.

The well-known experience that no class of diseases depends to so great an extent on transmission as that of mental diseases, points tolerably clearly by itself to the circumstance that all mental disturbances depend upon (direct or indirect) disturbances of brain function; for we can well conceive anomalies of the central organs of the nervous system to be inherited by way of material generation (just as tuberculosis, scrofula, cancer, and other diseases), but never immaterial psychical anomalies, of the possibility of which we can frame no conception at all (comp. vol. i. pp. 164, 165).

8. *There is no conscious mental activity outside or behind the cerebral function;* for if, in conformity with the foregoing, we may assume it proved that every disturbance of the normal functions of the brain disturbs the activity of consciousness, we may well assume it as certain that, with the complete abolition of the cerebral function, the activity of consciousness is likewise actually abolished, and not merely its manifestation prevented.

Were there not this progressive derangement of consciousness running parallel to the degree of disturbance of brain function, and passing quite gradually through all stages of idiocy into the loss of all consciousness (except that which manifests itself in the reflex instincts of the spinal cord), the supposition would, of course, be possible that a withdrawal of consciousness upon itself might take

place, in which merely every *manifestation* of the same is suppressed; but, as the case stands, this possibility, to which one can only have recourse at all as a desperate attempt to save one's prepossessions in favour of a preconceived system, has too low a probability for it to deserve the notice of an unprejudiced inquirer. In addition to the parallelism above mentioned, and the circumstance that the entire apparatus of nature would be superfluous for the setting up of consciousness, if consciousness could exist without it, the want of memory tells against it; for if consciousness during the inactivity of the brain withdrew upon itself, yet a memory thereof should remain behind. Others think to evade this circumstance when they assume a double individual consciousness (thus also double personality [!] in everybody), namely, one free from the body and a brain-consciousness, whereby the former is to be unconscious for the latter. Whatever cogency there is in the argument for this double-sidedness of the mind refers entirely to the spiritual background of the brain-consciousness distinguished by us as the Unconcious, which certainly those who only know conscious mental activity must hold to be a second consciousness; what, however, is adduced expressly for the duality of *consciousness* is very unfortunately chosen. First of all, the consciousness of the magnetic sleep is claimed as non-embodied consciousness, which, however, is only differentiated from the consciousness of dreams in the ordinary sleep by this, that the communication with the external senses is somewhat less impeded, and the functioning part of the brain is found in a state of artificial hyperæsthesia (over-irritation, over-sensibility), which has for its consequence that, firstly, the influence of the Unconscious can more easily find an entrance into consciousness, and that, secondly, the amplitude of the cerebral vibrations with equal vividness of the presentation is less than at other times, and consequently leaves behind fewer impressions of memory, which in most ordinary dreams un-

doubtedly remain after the disappearance of the hyperæsthesia of the brain, but are too weak to return into conscious memory upon the usual stimuli.

Accordingly it is no wonder that the dream-consciousness can just as well include the memories of the waking state as its own, but not conversely. In general, the somnambulistic is so closely allied to the ordinary dream through the movements of sleep and the different stages of night-walking and spontaneous somnambulism, that it is quite impossible to see in it an unembodied consciousness. And then also one does not get far with the *consciousness* of these states; they are rather to be called a dreamy semi-consciousness than an enhanced consciousness. So the heightened mental performances which are sometimes observed, always only resembling brief flashes of light, are to be reckoned partly to the facilitated suggestion of the Unconscious, partly to cerebral hyperæsthesia, which has for consequence an easier revival of ideas, as then in such states memories from early times of apparently long-forgotten things make their appearance, which were so weak that in the normal state of the brain no stimuli of sufficient intensity to arouse them had made their appearance. Thus all is naturally explained by familiar laws, without that ambiguous hypothesis being anywhere useful.

A still more unfortunate instance for the disembodied consciousness is the already mentioned recurrence of consciousness which sometimes occurs before death. Here again, too, an inner hyperæsthesia of the brain co-operates with outward anæsthesia, which sometimes produces that transfiguration of the spirit which has its prophecies and sharpness of memory in common with the somnambulistic state, its joyful rest and calm painless cheerfulness in common with the same nervous state (analgesia) in the highest degree of torture and certain narcotic intoxications. The external anæsthesia is there only the natural counterpoise to the inner hyperæsthesia; we find the same like-

wise in the ecstasy of mystic ascetics, in somnambulists, after slight administrations of chloroform, and many other narcotics, *e.g.*, haschisch; also in several states of frenzy it is sometimes exhibited. Thus this feeling of freedom from the body by no means proves a diminution, but rather a heightening of the irritability of the brain, and anything but the disembodiment of consciousness. States entirely similar induce similar phenomena just before drowning. Lastly, if the criterion of the disembodied consciousness is maintained to be the abolition of time in the sequence of thought, this would be equivalent to the intuitive, timeless, momentary, implicit thinking, which contradicts all discursive consciousness, as a something requiring the comparing of explicit ideas. But in the examples only the *more rapid* course of thought is specified, as it occurs in states of the highest cerebral irritation, in narcotic poisonings, before drowning, and the like, and has always been familiar as "flight of ideas" in certain forms of frenzy. What wonder that in an over-stimulated brain the ideas follow one another much more rapidly than usual? Altogether, so long as the ideas follow one another *in time*, they prove the action of matter, through the vibrations of which time first comes into thought; so far, however, as thought is disembodied, it is timeless, and therewith unconscious.

What we have proved in this chapter of the human consciousness, as the highest known to us, in which one might soonest suppose an independence from the body, holds of course also of the ganglia of the lower animals, which are the equivalents of the brain of the Vertebrata; and it holds just as much of the special consciousness of every independent ganglion in man and the higher and lower animals; and it holds, finally, also of the substances which, in the lower animals, form the central nervous system; and likewise, if a consciousness should be made out in the plants or inorganic substances, it holds also for this.

As conclusion to this chapter, a passage of Schelling

may find a fitting place (Werke, i. 3, 497), which sums up the contents of the same in a few words, although the assertion in Schelling's mouth has a somewhat different turn owing to the background of transcendental idealism: "Not the presentation *itself*, but rather the *consciousness* thereof is conditioned by the affection of the organism; and if empirism limits its assertion to the latter, nothing can be alleged against it."

III.

THE ORIGIN OF CONSCIOUSNESS.

1. *The Becoming-Conscious of the Idea.*—Consciousness is not a quiescent state, but a process—a continual becoming-conscious. That this mental process, to which consciousness owes its origin, cannot be immediately apprehended by the consciousness of the observer, is a matter of course; for that which first produces consciousness must of course lie behind consciousness, and be inaccessible to conscious introspection. We can thus only hope to attain to our goal by an indirect path.

The first condition is that we define the notion of consciousness more sharply than was hitherto necessary.—In the first place, it must be distinguished from self-consciousness. My self-consciousness is the consciousness of myself, *i.e.*, the consciousness of the subject of my mental activity. By subject of my mental activity, however, I understand that part of the whole cause of my mental activity which is not external, and accordingly the inner cause of the same. Self-consciousness is thus only a special case of the application of consciousness to a definite object, namely, to the supposed inner cause of mental activity which is denoted by the name Subject. It is not the active subject *itself* which becomes in the act of self-consciousness the content of consciousness or object of consciousness, but it is only the *idea* of the subject, regressively inferred by means of the category of causality from the activity of the subject, that becomes the object of consciousness. The active subject itself remains just

as inaccessible to consciousness as the external thing in itself, to which it corresponds as internal thing. All belief in an *immediate* self-apprehension of the Ego in the act of self-consciousness depends on the same self-delusion as the naive realistic belief in the immediate conscious apprehension of the thing in itself that exists independently of consciousness. Consciousness as such is, consequently, according to its own notion, free from conscious reference to the subject, in that in and for itself it refers only to the *object* (*i.e.*, not to the external correlate of the object of ideation or the thing in itself, but merely to the represented object which results from the ideational process, and presents itself as content of consciousness), and only becomes self-consciousness by the *idea of the subject* becoming accidentally *object* to it. It follows from this that no self-consciousness can be conceived without consciousness, but undoubtedly consciousness without self-consciousness. Only for conscious reflection as it takes place in the brain of the philosopher, who stands in thought outside the process and objectively regards it, but not for the subject of the process itself, must object and subject be simultaneously given, and in the same degree. For it lies in the conceptions themselves that subject and object require each other as correlatives; but this correlation is patent only to the consciousness of the philosopher, not to the unreflecting feeling of the natural man, and therefore to the latter in the intuitive apprehension of the concrete object the relation of the concept of the object to the concept of the subject, and especially the latter remains unconscious. (See more particularly below, pp. 56–58.) — Still less than with self-consciousness has consciousness to do with the notion of *personality*, or the identity of all the subjects of very different mental activities—a notion which is for the most part comprehended in the word self-consciousness, a practice which we shall also in future follow for the sake of simplicity.

But now, what is consciousness? Does it merely con-

sist in the form of sensibility, so that the two conceptions are identical? No; for the Unconscious also must have conceived the form of sensibility, otherwise it could not so aptly have furnished the same. We could, however, also conceive a consciousness as possible with quite other forms, if a world were otherwise fashioned, or if, besides and beyond our space-time world, yet other worlds exist in other forms of being and consciousness, which contains no inherent contradiction, since these worlds, however numerous, could not at all disturb or affect one another, and the One Unconscious, free of all these forms, would be the same for all. The form of sensibility can thus only be regarded as something added to consciousness, accidental, not as something necessary, essential.—Or shall we say that consciousness consists in memory? Memory is certainly no bad criterion of consciousness, for the more vivid consciousness is, the stronger must the cerebral vibrations be, and the stronger these are, the stronger must be the permanent impression they leave behind in the brain, *i.e.*, the easier, and with equal stimulus the stronger, memory becomes. One easily overlooks, however, the circumstance that memory is only an indirect consequence of the essence of consciousness; it cannot possibly, therefore, form its essence itself. Just as little can the nature of consciousness consist in the possibility of the comparison of ideas, for this again is only a consequence of the form of sensibility, especially of time; and, moreover, consciousness may be present in the greatest intensity if only a single idea fill the mind without any object of comparison.

According to all this, we have only one certain support which must guide us on the right way, namely, the result of the preceding chapter—the cerebral vibrations, more generally material movement, as *conditio sine qua non* of consciousness. Also, if we posit as many worlds as we please with other forms than space and time, yet, if the parallelism of being and thought is to be retained, something must exist in them corresponding to matter, and an activity of the same answering to motion must then like-

wise be condition of consciousness.—Accordingly, if we suppose the essence of consciousness to be founded in its material origin, and at the same time remember that the unconscious mental activity must of necessity be looked upon as something immaterial, on closer consideration two cases present themselves: *either* we adhere to "Will and Idea" as that which is common to unconscious and conscious representation, and posit the form of the Unconscious as the original, but that of consciousness as a product of the unconscious mind and the material action on the same; *or* we divide the whole system of mental activity between Materialism and Spiritualism in such a way that the conscious spirit belongs to the former, the unconscious to the latter, *i.e.*, we assume that the unconscious mind indeed has a self-dependent existence independent of matter, but that the conscious mind is an exclusive product of material processes without any co-operation of unconscious mind. The alternative, after our previous inquiries on the co-operation of the Unconscious in the genesis of all and every conscious mental process, is not difficult to decide. The essential similarity of conscious and unconscious mental action alone causes a fundamentally different origin for both to appear unthinkable; at least, this cutting up of the spiritual system and the distribution of its separate parts to different fundamental conceptions would appear more arbitrary than that of Schopenhauer in respect to Will and Intellect. Add to this, that we shall, in Chapter v., resolve matter itself into Will and Idea, and thus prove the *essential likeness of Mind and Matter;* that thus Materialism could offer us no final resting-place. We must, therefore, make our own the former of the two assumptions.

But now it is at once evident that we again have not yet grasped the essence of consciousness, for we only know its factors—on the one side, mind in its original unconscious state; on the other side, the movement of the matter which acts upon it. In any case, the origin of

consciousness can only be given in the *mode and manner in which* ideation comes to its object. Of matter consciousness knows nothing; thus the process producing consciousness must lie in the mind itself, if also matter gives the first impulse to it. Material movement determines the content of representation, but the nature of consciousness does not lie in this *content*, for the same content can indeed, the form of sensibility being abstracted, be also conceived as unconscious. But now, if consciousness can lie neither in the content, nor also, as we have seen before, in the sensuous form of the idea, it *cannot at all lie in the idea* as such, but must be an accident, which comes to the idea from elsewhere.

This is the first important result of our investigation, which certainly, at the first glance, may seem to conflict with the ordinary views, but on closer inspection must soon display its correctness to every observer, and shall immediately receive fuller elucidation. The common error is therefore to be ascribed to this, that we, for the most part, think of consciousness as something inhering *only* in the Idea, in that we forget the apperception of Pleasure and Pain; hence it is taken, without investigation, on trust and credit, as something immanent in the idea, especially as long as the unconscious idea is not more precisely known; and accordingly the question is never raised, To what then does the idea owe the accident of consciousness? who assigns it this predicate, as it were? when one would soon observe that it cannot itself give it to itself. But if the consciousness-producing process, in spite of its material occasion, must necessarily be of a spiritual nature, there remains nothing but the Will.

We have seen in Chapter i. of the present section how Will and Idea are united in the Unconscious in an inseparable unity, and shall further see in the final chapters how the salvation of the world depends on the emancipation of the intellect from the will, the possibility of

which is given in consciousness, and how the whole world-process is tending solely towards this goal. *Consciousness* on the one hand, and the *emancipation of the idea from the will* on the other, we have thus already recognised as standing in the closest connection; we only need to go one step further and to declare their identity, and we have found the answer to the riddle in harmony with the results just obtained. The essence of the consciousness of the idea is the extrication of the same from its native soil, the realising will,[1] and the opposition of the will to this emancipation. We had previously found that consciousness must be a predicate which the will imparts to the idea; we can now also assign the content of this predicate; it is the stupefaction of the will at the *existence* of the idea *not willed and yet sensibly felt by it.* The idea, namely, as we have seen, has in itself no interest in its own existence, no endeavour after being; therefore, as long as there is no consciousness, it is always only called forth by the will. Thus the mind before the rise of consciousness can have according to its own nature no other ideas than those which, called into being by the will, form the content of the will. Then organised matter suddenly breaks in upon this self-contained peace of the Unconscious, and in the reaction of sensation occurring according to necessary law thrusts upon the aston-

[1] This emancipation must not, however, be understood as if the conscious idea hovered, as it were, in the pure ether of the ideal out of all relation to the will. This is already sufficiently refuted by the previous expositions of the present book, and will be directly still more evident, if it turns out that the predication of consciousness issuing from the will itself is, at the same time, non-satisfaction of the will, *i.e.*, feeling of pain; that the conscious idea consists of sensuous elementary sensations, and every such sensuous elementary sensation is, at the same time, non-satisfaction of a definite volition. This only is meant by the emancipation of the idea from the will, that the conscious idea, unlike the unconscious idea, alone possible as content of a will realising it (comp. above, p. 58), can and does exist without its being directly evoked by a will which possesses it as a content to be realised; that it is idea pre-eminently free from every effort at self-realisation, but without prejudice to all other possible relations to the will, nay, even without prejudice to the possibility of *afterwards* becoming itself again content of will.

ished individual spirit an idea which falls upon it as from the skies, for it finds in itself no will to this idea. For the first time "the matter of intuition is given to it from without." The great revolution has come to pass, the first step to the world's redemption taken; the idea has been rent from the will, to confront it in future as an independent power, in order to bring under subjection to itself its former lord. This amazement of the will at the rebellion against its previously acknowledged sway, this sensation which the interloping idea produces in the Unconscious, this *is Consciousness*.

To speak less figuratively, I conceive the process in the following way:—There arises the idea impregnated from without. The unconscious individual mind is amazed at the unwonted circumstance that an idea exists without being willed. This amazement cannot proceed from the will alone, for the will is indeed the absolutely irrational, thus also too blind for wonderment and surprise; but it can also not proceed from the representation alone, for the idea impregnated from without is as it is, and has no reason to be surprised at itself; all the rest of the ideal sphere, however, except this one, is, as we know, fast bound in the Unconscious in inseparable unity with the will. Consequently, in the first place, the startling can only be effected by both sides of the unconscious will and idea in union, *i.e.*, by an in-formed will, or a willed idea; and secondly, that which in the startling is idea can only exist through a will whose content it forms. Accordingly, the matter is only to be conceived in this way, that the idea impregnated from without acts on the will as *motive*, and, moreover, evokes *such* a will as has for its *content* to *negate* it; for should the now excited will be related affirmatively to it, there would again be *no opposition* and no consciousness. The excited will must thus be related negatively to it, and the startling is the moment of origin of this negating will, the sudden, momentary occurrence of the opposition of the will. But the word

"startle" also signifies nothing further in ordinary language only that the process in our human experience is an opposition suddenly occurring between *conscious* moments, but here takes place between *unconscious* moments.

Lastly, it should be mentioned that the opposing will is *too weak*, with respect to the idea impregnated from without, to carry through its negating intention; it is thus an impotent will to which satisfaction is refused, which, consequently, is linked with pain. Thus every process of the becoming conscious is, *eo ipso*, united with a certain displeasure. This is, as it were, the vexation of the unconscious individual mind at the interloping idea which it must endure and cannot get rid of. It is the bitter medicine without which there is no healing—a medicine, to be sure, which at every moment is swallowed in such very small doses that its bitterness escapes self-perception.—

The peculiar difficulty of this exposition appears to be, how it is possible that matter in the form of the vibrating molecule should be able to plunge into the peace of the unconscious will itself, and that, too, in the double sense; how it has power, as *matter*, to affect the *mind*; and how the mind is at all able to enter into communication with *anything* external? This difficulty thus essentially concerns the old problem of the reciprocal influence of body and mind, which we are here neither able to evade, like Kant and Fichte, by converting the body into a subjective appearance of the mind, nor, as Materialism, by converting the mind into an external appearance resulting from objective material processes, but which we must boldly face, since the (unconscious) mind and matter both pass for real. Already, at the beginning of A. Chap. vii., this problem met us in reference to the medium whereby the will realises itself in the body, especially in the muscular movements; here it is the reverse of the question at which we have arrived, namely, how the mental idea can be conditioned by the organism. There the question reduced itself to this: how the will can influence the movements

of the central nerve-molecule, here to this, how the movements of the central nerve-molecule can influence the idea? There we were obliged to assume the realisation of the unconscious *will* to be effected by an unconscious one (A. Chap. ii.); here we must contemplate the origin of the conscious *idea* as brought about by unconscious mental reactions. There the (unconscious) will, directly influencing the molecule, was to be conceived united with unconscious *representation;* here we must suppose, for the sake of coming to pass of the sensation, an unconscious *will* conceived as essential factor. The *direct* reciprocation thus in both cases exists between the forms of movement of central nerve-molecules on the one hand, and *unconscious* mental functions on the other, in which, as we quite generally know from A. Chap. iv., an union of unconscious will and unconscious idea always takes place.

If, now, matter and unconscious mind were really heterogeneous departments of existence, as the dualistic view prevailing since Descartes in the consciousness of European culture assumes, it would in fact not be apparent how the *influxus physicus* presupposed in these processes could be possible. Fortunately, however, it will turn out in C. Chap. v. that matter itself is in its essence nothing else whatever but unconscious mind, whose representations are only limited to spatial attraction and repulsion of uniformly varying intensity, and whose volitional manifestations consist in the realising of this limited ideational province. If we at this place anticipate this identity of being subsequently to be demonstrated, it is immediately comprehensible that the reciprocal action of body and soul can no longer, as before, be frustrated by the incapability of bridging the gulf between heterogeneous substances. The psychical will can just as well include in itself in the ideas, which form its content, spatial relations and change of existing spatial relations, as can the atomic will of a cerebral atom. Both can accordingly just as easily collide with one another and conclude their collision by a compromise

as two opposing atomic wills. In both cases the weaker will must in the compromise yield the more the weaker it is than its opponent. When, *e.g.*, there exists the will to a special bodily movement, it will, for the most part, considerably surpass in intensity the single cerebral atomic wills, which would *per se* follow only their own mechanical laws, and therefore usually sufficiently carry its point. When, on the other hand, such a special will is not aroused and concentrated, there the cerebral atomic wills excited by the propagated stimulus of the sense-organs produce a relatively considerable effect on the psychical will directed to the organism, *i.e.*, in the compromise resulting from this conflict of will it will now also, on its part, have a relatively considerable share in concession and accommodation, only that this share, on its side, is not, as on the side of matter, presented spatially as objective phenomenon (which merely arises from the difference to be hereafter mentioned in C. Chap. xi., that the directions of the will in the atomic wills exclusively intersect at a single point when prolonged backwards, and thereby produce the appearance of a localisation of the seat of force).

As *matter*, as *objective real phenomenon* (*i.e.*, independent of every intelligence intuiting it), could not at all come to be without two or more atomic wills intersecting and falling into conflict with one another in their volitional manifestations, so also the primitive conscious representation of *sensation as subjective ideal phenomenon* only becomes possible through precisely the same conflict. An atomic will existing isolated and alone in the world would have no objective existence at all, because the possibility would be wanting to it of self-objectivation, *i.e.*, of bringing its essence to external manifestation. An isolated and sole-existing incorporeal individual mind (assumed *per impossibile*) would, even if it should display ever so much unconscious will and idea, yet never attain to the subjective manifestation of consciousness. An *ad libitum* number of atomic wills and of individual minds.

which were, however, isolated from one another, and incapable of thrusting against one another and clashing with their wills, would be altogether in the same position as one existing solitary and alone. Only when the radiating will meets with a resistance by which it is checked or broken can it lead to objective manifestation of *existence*, to the subjective phenomenon of *consciousness.* Such a resistance it can, however, only find in its like, in another will with which it has a certain *common* sphere of action, whilst the tendency and goal of the latter is, in a certain sense, *opposed* to its own. The common sphere of action makes *contact* possible; the opposite tendency and goal condition the *collision* in encounter, which finds its *solution* in the *compromise* determined by the content of both. The yielding of each of the colliding wills is now, however, no longer willed by it, but forced, pressed upon it by the other will, which is for it mainly only resistance, and the compromise as result does not correspond to the goal of volition on either side, so that a contrast between the willed and attained arises, just as between the centrifugal function, as it were, of the volition itself and the centripetal rebound on collision. Now, the breaking of the will on the resistance of a foreign will crossing it, or the centripetal rebound, is *sensation*, and, moreover, as non-satisfaction of the will, *pain*-sensation. As non-satisfaction of a definite will, *i.e.*, one filled with a definite ideational content, sensation is also *qualitatively determined*, *i.e.*, sensation characterised by a (here unconscious) ideational content. (Comp. B. Chap. iii.) As qualitatively definite sensation, however, it is *element of the conscious idea*, and in so far it may even be described as *elementary* conscious representation. The predicate of consciousness enters into the sensation just through the exhibited contrast, and this contradiction between volition and impression of the resistance answers to what I have above named by an expression transferred from the conscious mental life to the unconscious, the *startling* of the will at the

intruding idea not willed by itself. Perhaps the more general mode of treatment here entered upon may contribute to the comprehension of the matter, and allow it to be more clearly perceived that the figures there employed were, in fact, only employed as figures.

The difficulty which occasioned this digression is, however, not yet exhausted by the foregoing. In spite of the admitted essential identity of mind and matter, the second question always remains open—how the psychical individual will can at all come in contact with any other will than, in fact, with the atomic will of the brain, since, *e.g.*, it is indeed not able decidedly to touch and to collide with other psychical individual wills? We must here, too, anticipate and acknowledge the future course of the inquiry—that the possibility of such a contact and collision would not be visible if the individual mind on the one hand and the atoms of matter on the other were discrete substances. It only becomes comprehensible on the assumption that they are merely different functions of one and the same essence, and, moreover, of an unconscious essence; for were it conscious, there would be the common consciousness in all functions, and through the conflict anticipated by the common consciousness, and brought to conclusion in it, as it were, it could no more attain to special consciousness, whereas in the root of one unconscious essence the separated functions have just only the necessary common bond for reciprocal influence, but yet still room enough for the establishment of separated consciousnesses, as it were, on their broken points or jolted peripheral endings. Now it is true a reciprocal influence in general is made possible through the common metaphysical root of the substance, but the latter does not of itself suffice to introduce this coincidence of certain functions at their separated peripheral ends. For that there is also necessary, as a second condition, that the ideational contents of these wills should contain in themselves the common sphere of their contact, just as well as the oppo-

site tendency; and this second condition is simply not fulfilled between the different individual minds, but doubtless between the atomic wills, which, in their ideal content, contain also the spatiality of their relations (creating in its realisation the one objective space). This is the metaphysical reason why minds only communicate through their bodies. The bodies move and act in the one objective space as in their common sphere in which they may collide; minds, however, have neither a direct relation to this general space of matter (for the subjective consciousness-space is, for every mind, a different one, unapproachably self-enclosed), nor do they possess another analogous sphere of direct spiritual encounter, as the bodies (or rather their atoms) possess them in space.

The conditions of a mutual sphere for the contact of different wills are, however, also given between the mind and the body connected with it. In C. Chap. ix., namely, we shall see that the individual mind or the soul of a body is nothing more than the sum of the functions of the All-one Unconscious directed to this corporeal organism. This organism, *i.e.*, this then and there ordered aggregate of atoms, is thus the goal expressly included in the unconscious ideal content of the total will-functions of this individual mind. There cannot be in this individual mind a single function which does not unconsciously refer to this organism, and which does not include even quite definite parts of this organism or quite definite spatial changes of position of such parts in its ideal content (say, *e.g.*, the excitation of certain cerebral vibrations of a metaphysical thought). Each individual mind accordingly possesses the possibility of colliding with the atomic wills of its organism, but only with those of its own, not with those of any other, because its organism alone is included, conformably to its spatial relations, in the (unconscious) content of representation of its functions, but not any other. Every function of the All-one Unconscious, namely, which is related to another organism, truly belongs to the

sum of the functions directed to this other organism, *i.e.*, to *its* soul or individual mind.[1]—We hardly need remind the reader that the possibility of a collision of wills for both kinds of reciprocation between body and mind holds good not merely for that where the mind is the preponderating *determining* part of the compromise, but also where it is the prevailingly yielding or *receptive* part, *i.e.*, not merely for the influence of the will on the body, but also for the arousing of ideas by means of impressions of sense and brain. If the function of the individual mind rightly affects the atomic wills of the brain, conversely also, as a matter of course, must the atomic wills of the brain just as correctly affect this same individual mind.

Through these elucidations, in part forestalling the contents of subsequent chapters, our exposition of the origin of consciousness may have received illumination, and this may serve as an excuse for the digression from the regular course of the inquiry. Hints, intelligible to a certain degree, of such an origin of consciousness from an opposition of different moments in the Unconscious, I have only found in Jacob Böhme and Schelling. The former says (of the divine contemplation, c. i. 8): "Nothing can become manifest to itself without repugnance; for if it has nothing to oppose it, it is ever going out of itself, and does not return to itself; but as it does not return to itself, as to that whence it originally proceeded, it knows nothing of its primitive state."—— Similarly Schelling says (Werke, i. 3, p. 576): "If, however, the Absolute is to appear to itself, it must on its objective side be dependent on something else, on something foreign. But this dependence does *not* belong to the *Absolute itself*, but merely to its *appearance*."——

The contrast between Will and Idea is still more height-

[1] Through this consequence of the doctrine of the Unconscious, Spinoza's proposition, that the soul is the idea or representation of the body, receives for the first time a comprehensible signification.

ened by the idea not being directly given through material movement, but only through the *uniform reaction of the unconscious psychical on this action.* It accordingly follows, that the unconscious individual mind must answer with an *activity* (of sensation) which is, as it were, peripherally *thrust* upon it through the impression produced on its volition by a foreign manifestation of will. In this manner chiefly arise the simple qualities of sense-impressions, as sound, colour, taste, &c., from whose mutual relations all sensuous perception is built up, from which again, by reproduction of the cerebral vibrations, memories, and by partial dropping out of the content of the latter abstract conceptions arise. In all cases of conscious thought we have to do with *cerebral vibrations*, which affect the individual mind and compel to uniform reaction; in all cases the *sensible qualities* are the results of this reaction, and of these elements the total conscious presented world is composed. If, now, these *elements* always excite the process which produces consciousness, and thereby become conscious, it will not surprise us that also the *combinations* of these elements takes part in consciousness, although the *kind of combination* is often produced by the will itself.

Hereby the apparent contradiction is explained that ideas which are evoked by the will, consequently not opposed to this will, may yet become conscious because they just consist of elements which have become ideas through extorted reactions of the Unconscious. The will, namely, can only evoke a conscious idea through the particular memory being aroused, *i.e.*, by former cerebral vibrations being reproduced. Before the conscious idea is there, it must be contained as content in the unconscious will, certainly in non-sensuous form, otherwise the will indeed would not be able to excite *this* idea. Further, as means to this end, the point of attack in the brain must be unconsciously represented, whence the particular vibrations of memory may be excited and the stimulation of

the same be willed. Further, however, even the unconscious will does not go, for it can only produce the idea in the sensuous form as reaction on these vibrations; now occur the vibrations and the reaction of the Unconscious happens, compelled, as ever, by a lawful reaction, and therewith the consciousness of the representation is also given. The like holds good also of the co-operation of the Unconscious in the coming to pass of sensuous perception, as before taken note of. It also holds good when the conscious representation becomes content of a will, which is then termed conscious will; for the conscious representation must previously be present in conscious form before the will can grasp it in this form and make it its content. But if the idea once possesses the conscious form, it does not lose the same again, on account of the will combining with it, because its elements, which, as long as it exists, must reproduce themselves ever and ever anew, always do this in conscious form.

2. *The Becoming Conscious of Pain and Pleasure.*—If we have always hitherto spoken of the becoming conscious of the *Idea*, it was not thereby meant that the idea is the sole object of consciousness. The exclusive reason for this limitation was rather the endeavour not to make more difficult the penetration into this difficult province by prematurely increasing the objects and complexity of the points of view. This is the sole reason why we have, instead of speaking of the general "object of the becoming conscious," treated the problem from its especially characteristic side. But now, if the principle thus gained of the origin of consciousness is to be held correct, it must be adapted to every possible content of the becoming conscious. There must be logically deducible from it what elements can enter into consciousness, what not, in that they are brought one after another within the formula. This we will now do with Pain, Pleasure, and Will, which remain along with the Idea as possible objects of consciousness. What we thus *a priori* derive as consequences of

our principle must prove to be correct *a posteriori* in the face of experience. In this *a posteriori* confirmation we have, then, the controlling test of the principle that everything which experience offers us as a something to be explained also actually flows from it, whilst we gained the principle itself originally *a priori* by elimination of the incorrect assumptions from all possible ones, when finally only one remained to us.

If, after the principle is thus justified *a priori* and *a posteriori*, it may possibly be desired that I should show *how and in what way* there results from the process indicated just that which we know in inner experience as consciousness, this demand would be just as improper as one made upon the physicist to show *how* from the aerial waves and the arrangement of our ear that results which in inner experience we know as sound. The physicist only shows us, and can only show, *that* that which is subjectively felt as sound consists, objectively regarded, in a process which is compounded of such and such vibrations. In the same way I can only show *that* that which we know in subjective apprehension as consciousness, objectively regarded is a process, which is built up in such and such a way out of such and such terms and factors. To experience more I hold to be impossible, and therefore to ask for more improper; for in order to understand the How of the transmutation of the objective process into subjective sensation, one would be obliged to adopt a third point of view, which is neither subjective nor objective, or, what is the same thing, is both at once. This standpoint, however, the Unconscious alone possesses, whereas consciousness is just the division into subject and object.

Feeling can be pleasure or pain, satisfaction or non-satisfaction of the will; all else, as shown in B. Chap. iii., are more precise determinations, which belong to the department of ideation. The non-satisfaction of the will must always become conscious, for the will can never will its own non-satisfaction; consequently non-satisfaction

must be thrust on it from without; consequently the condition of the origin of consciousness is fulfilled in the startling of the will at something *not issuing from itself*, and yet really existing and making itself felt, the partial compulsion to yield on the collision with another will, and the contrast of this rebound with the goal striven after; and experience corresponds to it entirely, in that nothing speaks more emphatically to consciousness than pain—pain conceived also as freed from the nearer determinations belonging to the idea.

The feeling of *pleasure* or the satisfaction of the will cannot be conscious in and for itself, for while the will realises its content, and thereby brings on its own satisfaction, nothing takes place which could come into opposition with the will; and since all compulsion from without is wanting, and the will only gives place to its own consequences, it can arrive at no consciousness. Otherwise does the matter appear when a consciousness has already established itself, which collects and *compares* observations and *experiences*. This soon learns from the many non-satisfactions to know the resistances which oppose every will in the external world, as well as the *external conditions* which are necessary if the realisation of the will is to *succeed*. As soon as it is compelled to acknowledge these external conditions of success, and therewith satisfaction as something partially or wholly conditioned from without, consciousness appertains to pleasure also.—All this is thoroughly confirmed by experience.

One sees especially in infants that they give very expressive signs of pain for weeks before the slightest trace of pleasure is legible in their countenances and gestures. Clear confirmation is afforded by the case of pampered children, who are wont always to get their way, and who accordingly do not know what to make of it when for once their wish is not complied with. These children have, in fact, as good as no enjoyment at all from the satisfaction of their desires; however, the latter remain, for

the most part, unconscious. About the only enjoyment they have is from satisfaction of the senses (eating of sweetmeats), because the solicitude of the environment cannot here save them disagreeable comparisons. How much, however, our assertion fits even the case of adults, doubtless every observer of his race will admit; for any kind of satisfaction which permanently recurs without interruption by non-satisfaction ceases to be a conscious satisfaction, *i.e.*, a conscious enjoyment, as soon as one begins to think: it must be so indeed, and cannot be at all otherwise. On the other hand, even a slight satisfaction enters into consciousness as pleasure, the more vividly the more distinctly it is seen that we owe it to external circumstances, because, in spite of its being always willed, one has rarely been able to procure it.

3. *The Unconsciousness of the Will.*—Now as concerns the *Will* itself, we have hitherto called it conscious when it has a conscious, unconscious, when it has an unconscious idea for its content. It is, however, easy to see that this is only a figurative expression, since it only refers to the content of the will; but the will itself can *never* become conscious, because it can never contradict itself. There may very well be several desires at variance with one another, but volition at any moment is in truth only the resultant of *all* the simultaneous desires, consequently can always be only conformable to itself. If now consciousness is an accident which the will bestows upon that of which it is compelled to recognise not itself, but something foreign as its cause, in short, what enters into opposition with it, the will can never impart consciousness to itself, because here the thing to be compared and the standard of comparison are one and the same; they can never be different or at all at variance with one another. The will also never gets so far as to recognise something else as its cause; rather the appearance of its spontaneity is indestructible, since it is the primal actuality, and all that lies behind it potential, that is, unreal. Whilst dis-

pleasure, then, *must always* become conscious, and pleasure *can* become so under certain circumstances, the will is said *never* to be able to become conscious. This latter result perhaps appears unexpected, yet experience fully confirms it.

We have seen in A. Chap. vii. that only a conscious idea is able to excite the unconscious will to any movement or action, even without a motive proper being contained in the idea. But if the idea contains a motive at all, a proper ground of excitement, the excitation of the unconscious desire must certainly follow. If, now, the man has the conscious idea of a movement, and thereupon sees himself execute this movement with the certainty of not being necessitated from outside, he instinctively concludes that the cause of the movement lies in himself, and this inner unknown cause of movement he calls will. That the conception thus attained only rests on causality just as little detracts from the instinctive apprehension of its reality, as it detracts from that of the external objects, that we possess them only as *unknown external causes* of our sense-impressions, and as it detracts from the subject of ideation or the intellectual ego that we know it only as *unknown internal cause* of ideation. The one as the other we fancy we directly apprehend because we do not attain it by conscious reflection, but through unconscious processes, and philosophic contemplation must first teach us that all these notions are for us intangible essences, whose only hold on our thought lies in their causality, without this knowledge being detrimental to the immediate instinctive certainty of their direct possession. In the same way a writer thinks he has the feeling directly in the point of the pen itself, whilst the simplest consideration teaches him that he has it only in his fingers, and unconsciously applies the principle of causality without being able to avoid the unconscious illusion of his tactile sense, only that here the correction succeeds much sooner than in those deeply rooted psychological illusions.

When a man has once in the way indicated grasped the conception of will (albeit by a process of unconscious thinking), he very soon observes that ordinary ideas rarely draw after them phenomena of motion, but always such as contain the feeling of a pleasure or displeasure, and that, too, according as actions are persistent and in themselves attractive, or repellent. From this he becomes acquainted empirically with the law of motivation, according to which each representation of pleasure excites positive desire, each idea of displeasure negative or repellent desire. This law is exceptionless, and all instances to the contrary rest on an error; *e.g.*, when a past enjoyment is represented, and yet not again desired or wished over again, it follows from that that it would now no more be enjoyment. If other opposed desires, which simultaneously arise, suppress the emergence of this desire, so much force is consumed in the suppression as the desire would have had had it arisen. When, now, the man has perceived this law of motivation to be exceptionless, he knows that every time a desire is united with the representation of a feeling of pleasure or displeasure, and supposing other desires or external circumstances not to hinder the execution of the corresponding movement, he sees the latter ensue. This process, again, goes on unconsciously, and whereas the man before only possessed the notion of volition as cause of an effect, he has it now as effect of a cause. With that, however, he has the possibility of perceiving it also then in himself, if its effect, the execution, is prevented by other desires or external circumstances.

Further, the man sees a gradual proportion between the sensuous vividness of the presentation and the magnitude of the presented pleasure and displeasure, on the one hand, and the violence of the movements, the energy of the action, the duration of the attempts at action, on the other, and concludes therefrom that also the link intermediate between the two ends of the causal chain must stand in a proportional relation to each of them; hereby he obtains a

measure of the *intensity* of the will.—The points mentioned would certainly suffice for mediate knowledge and the appearance of a direct cognition of the will; however, they are still somewhat of an external nature, and the illusion becomes still much greater through other accompanying circumstances. It is, namely, only in the very rarest cases that the desire can obtain satisfaction at the very moment of its arising; there always elapses a shorter or longer time before realisation takes place, and so long lasts a *feeling of non-satisfaction, of unpleasant expectation and deprivation* (tension, impatience, longing, yearning), certainly for the most part *sweetened by hope*, which either is prolonged until the gradual disappearance of the desire, or induces by a perception of impossibility and destruction of hope the full non-satisfaction and displeasure (with an undiminished persisting violent desire despair), or finally passes into satisfaction and pleasure. These feelings are the constant attendants or successors of desire, and can only arise through it. They also enter into consciousness, and are here the proper and most immediate representatives of the desire, which it is true one can again only properly apprehend as cause of the same, but which one thinks to grasp immediately through the above-mentioned illusion. Just as desire in general is perceived in the feelings spoken of, so every special kind of desire is perceived through the special and peculiar kind of the feelings accompanying it. The constant connection of the two hereby becomes visible, that the special kind of desire is indeed already determined for consciousness by the kind of motive and the kind of ensuing actions. Yet the possibility of error still remains open, especially in the cases where the accompanying feelings (longing and hope in general) are the *sole* signs of the presence of the will. Then the mistake easily occurs of seeking the desire giving rise to these feelings in other well-known desires, whereas the same are entirely guiltless thereof.

This case, for example, occurs in the instincts, most

distinctly in love, where the willing of the metaphysical end is unknown to the lover, who, on this account, erroneously lays the extravagant longing and hope merely to the account of the willed means (intercourse with this particular individual), and accordingly imagines a quite special enjoyment in intercourse with such individual, and is then so disagreeably smitten with disillusion. This is not contradicted by the fact that there may notwithstanding be consummate bliss, because the unconscious clairvoyance of the metaphysical goal begets an extravagant longing, which again awakens an extravagant hope of an extravagant enjoyment, whose essence, however, consciousness is unable to express, and which is never realised. Here, too, the saying holds: "Hope was thy allotted portion."

Those concomitant feelings of desires are generally of a highly peculiar and characteristic nature, conditioned at the same time, for the most part, by bodily feelings which are reflectorially called forth in adjoining parts of the body by the respective cerebral affections. Think of anger and its rush of blood; of fear and terror, with their arrest of the circulation, difficulty of breathing, and trembling; the suppressed sob, vexation, and grief, with their life-corroding influences; impotent rage, with its choking and bursting sensations; affection, with its tears and its relaxed breast and stomach; longing, with its consuming woe; sensuous love, with its gushing glow; vanity, with its heart-leapings; effort at thought and strained reflection or considering, with its peculiar reflex feelings of tension at different parts of the scalp, according to the part of the brain subjected to strain; defiance, inflexible obstinacy, and fixed resolution, with their peculiar muscular contractions; disgust, with its anti-peristaltic movements of the fauces and stomach, &c., &c.

How much the character of these feelings is dependent on such bodily admixtures will be easily granted by every one. How much it is simultaneously conditioned by accompanying unconscious representation has been dis-

cussed at the end of Chap. iii. B.—If, now, the man thinks to apprehend the will directly in consciousness in three ways (1) from its cause, the motive; (2) from its accompanying and succeeding feelings; and (3) from its effect, the act; and all the time (4) has the content or object of the will as representation actually in consciousness,—it is no wonder that the illusion of being immediately conscious of the will itself is very tenacious and firmly fixed by long habit, so that it allows the scientific view of the eternal unconsciousness of the will itself only with difficulty to make way and to obtain a firm footing in the mind. But let any one only once carefully test himself with several instances, and my assertion will be found confirmed. If any one at first believes himself conscious of the will itself, he soon observes, on closer examination, that he is only conscious of the *conceptual representation "I will,"* and at the same time of the idea which forms the content of the will; and if he pursues the investigation, he finds that the ideal presentation "I will" has always simultaneously arisen in one of the stated three ways or in several, and *nothing* more is found in consciousness, even after the most searching examination. One thing, however, is still very remarkable, viz., if (as happens to everybody) we are vexed that our previous opinion has to be abandoned, and one says to oneself, "Still I can will what and when I will, and know that I can will, and now, *e.g.*, I do will," yet that which is taken for direct perception of the will is nothing else but reflex *bodily feelings* vaguely localised, and, indeed, feelings of defiance, obstinacy, or even merely of decided firm resolve. Here, then, arises the semblance of consciousness of the will itself in the second mode, from accompanying feelings. This, too, will be found verified certainly only when one gives oneself the trouble to make trial of it.

Finally, however, I have to mention yet one last decisive reason for the unconsciousness of all will, which quite directly decides the question. Every man *knows what he*

wills only so far as he possesses the *knowledge* of his own *character* and of the psychological *laws*, the sequence of motive and desire, feeling and desire, and the strength of different desires, and can from these calculate beforehand the *result* of their struggle, or their resultant, the will. Entirely to fulfil this requirement is the ideal of wisdom, for only the ideally wise man always knows what he wills; all other men, however, know the less what they will the less they are accustomed to study themselves and the psychological laws, to keep their judgment always free from disturbance by passion, and, in a word, to make conscious reason (as suggested in Chap. xi. B.) the motive of their life. Therefore a man knows the less what he wills the more he abandons himself to the Unconscious, the inspiration of feeling. Children and women rarely know it, and only in the simplest cases; animals probably still more rarely. Were knowledge of the will not an indirect constructive calculation, but a direct conscious apprehension, as in pleasure, displeasure, and representation, it would be absolutely incomprehensible how it should so frequently come to pass that we firmly believe we have willed one thing but are taught by the act that we have willed another. (Comp. vol. i. pp. 252 and 262.) In the case of something directly entering into consciousness, *e.g.*, pain, there can be no room for error; that of which we have immediate self-apprehension truly exists, for we apprehend it immediately in its own nature.

Since the will in and of itself is under all circumstances unconscious, it is now also comprehensible that, for the becoming conscious of pleasure or displeasure, the will itself is precisely similarly circumstanced, whether it is united with a conscious or an unconscious representation. For the becoming conscious of displeasure, which indeed is already in opposition with will in such and such a manner, it is obviously indifferent whether the idea which forms the content of will is conscious or unconscious; at the most, it might appear of importance for the becoming conscious

of pleasure. If the content of the will is a conscious representation, the possibility of the becoming conscious of its satisfaction is clear without more ado; perhaps also, if it is an unconscious idea, this possibility exists with the help of accompanying feelings and perceptions. If, namely, in n cases these accompanying feelings and perceptions have had for their consequence m times a displeasure and $n-m$ times none, one *instinctively* concludes that these feelings and perceptions may be the work of an unconscious will which was not satisfied m times, *i.e.*, produced pain, whence it immediately follows that it must be satisfied $n-m$ times. Thus this satisfaction may, in consequence of the contrast, also attain to consciousness with a will whose content always remains unconscious, if it is only accompanied by regularly recurring marks, which, in place of the idea which forms its content, can figure as representative of the inherently eternally unconscious will. This must be added as supplementary to Chap. iii. B., where these points could not be weighed.

The insight thus obtained of the unconsciousness of the will in itself throws an interesting light on ever-recurring endeavours in the history of philosophy to resolve will into idea; I merely name the most prominent—Spinoza, and in recent times Herbart and his school with the most detailed attempt in this respect. This endeavour, which in less degree is manifested also by Hegel, would be utterly inexplicable in the case of such great thinkers, if the will, which in its essence is entirely heterogeneous to the idea, were something immediately given in consciousness; they become, however, through the circumstance that one never finds in consciousness the *will itself*, but always only the *idea of the will*, not only explicable, but *authorised and demanded* for the *exclusively conscious* standpoint, since the will has actual existence only in the sphere of the Unconscious. It is, therefore, also characteristic that just the most dilettante of all considerable philosophers, Schopenhauer, disregarding this requirement of strict thought,

claims to have found the will as core of his own being directly in consciousness. As the philosophising of common sense thinks to grasps things immediately in external perception, just as dogmatically did Schopenhauer imagine himself to have apprehended the will immediately in inner experience. Criticism annihilates the one as the other dogmatic semblance of instinct, but science gives again to cognition, as conscious mediate possession, what it has destroyed of blind, immediate instinctive faith.

4. *Consciousness has no degrees.*—Our principle has yet to stand one final test. If, namely, our assumption is correct, that consciousness is a phenomenon the essence of which consists in the opposition of the will to something not proceeding from it and yet sensibly present, that thus only those elements of ideation or feeling can become conscious which light upon a will found in opposition with them, *i.e.*, on a will which does not will or negates them, it follows from this that consciousness can as little as naught or negation have differences of degrees. The question is one of a pure alternative: "Becoming conscious or remaining unconscious?" If the will comports itself affirmatively, the latter occurs; if it is negatively related, the former. There is no stronger or weaker in negation, for negation is a positive, not a comparative conception. There may, indeed, be a partial and complete negation, but this is not difference in the negation, but in the negated object, and can, therefore, establish no difference of degree in negation itself. A partial negation must in our case have for its consequence the becoming conscious of the one and the remaining unconscious of the other part, but in no case could there emerge a difference of degree in consciousness as such.

What becomes conscious, the object or the content of consciousness, may then show a more or less; but consciousness itself can only be or not be, never be more or less. Undoubtedly the will also, which by its negating of the object posits the becoming conscious of the same,

may exhibit difference of degrees, be stronger or weaker; but the strength of this will, presupposing that it at all lies above the threshold, has no influence at all on the alternative, "becoming conscious or not," only whether its *content* be affirmatively or negatively related to the object of the becoming conscious affords ground for a decision. Hence no difference in the degree of consciousness can be derived from the strength of the opposing will; either something becomes conscious or does not become conscious; in no case can it become more or less conscious. I will try to make this state of the case still clearer by an example in the matter of willing.

If I will to give something to a beggar, I certainly will more if I give him a half-crown than if I give him a penny; this is the more or less of content, which does not at all touch the question of the intensity of will as such, for the will itself may, in both cases, be equally strong, whether I intend to present him with half-a-crown or a penny. On the other hand, with the same content the will may have very different strength; *e.g.*, if of two men each wills to give the beggar a penny, the one may possibly be dissuaded from so doing by a very slight cause, whereas the will of the other overcomes strong counter-motives. This is the degree of difference of the will as such. The degree of difference of the content we have in consciousness also; the graduated difference of consciousness as such must, on the other hand, be wanting according to the *a priori* derivation from our principle; should this *a priori* consequence of the same not be confirmed by experience, this would be an indirect attack on the principle itself.

What especially stands in the way of the empirical recognition of that proposition is the confusion of the notion consciousness with two other allied notions, first attention, secondly self-consciousness.—*Attention* we have already repeatedly (vol. i. pp. 131–132, 174–175, also 275, 276) seen to be a nerve-current, produced both reflec-

torially as well as voluntarily, which runs its course in sensory nerve-fibres from centre to periphery, and serves the purpose of heightening the conductivity of nerves, especially for weak stimuli and weak differences of stimuli. Attention accordingly consists of material nervous vibrations. Inasmuch as these run from centre to periphery, it is inevitable that they should, even without giving rise to perception, be reflected from periphery to centre. Moreover, through attention a number of muscles are contracted for every sensory sphere, in order to facilitate the reception of the perception by the organ; and lastly, certain other muscles, especially muscles of the scalp, are reflexively contracted. These three movements agree in this, in bringing sensations to the organ of consciousness by means of material vibrations, *i.e.*, *attention as such is an object of perception, and consequently of consciousness.* One may be easily convinced of this if in the dead of night one has occasion to listen attentively for a signal, or to look towards the horizon to see whether a rocket will be sent up. If for pure ideation certainly also muscular tension of the sense-organ is absent, yet the reflex tension of the muscle of the scalp remains (whence the word "cracking one's brain"), and the effect of the nervous vibrations as such. Wherefore also that attention is distinctly felt which is not directed to an external sense, but merely to the inner ideational life of the brain, as any one may easily observe in himself when he is searching for a word that has escaped him.

Attention enhances the irritability of the parts which it affects, and thereby facilitates both the revival of former ideas and also the perception of weak stimuli and differential stimuli. We cannot definitely assert that it magnifies the amplitude of the vibrations, because the intensity of a sensation (*e.g.*, intensity of sound) is not perceptibly increased by enhancement of attention. Yet this also, as I hold to be extremely probable, may be merely apparent, in that the increase of intensity has

already begun unconsciously to abate, just as the magnifying of an object by nearer approach is not easily perceived, and the comparison of two circular openings equidistant from the eye is not essentially easier than that of two unequal ones at a greater distance.—Be that, however, as it may, this much is certain, that we have a double estimate in every sensation, both of the strength of the sensation, so far as it depends on the stimulus, and also of the degree of the applied attention; that thus an element is added to perception through the cerebral vibrations of attention, which makes the total perception richer and more comprehensive (quite apart from the circumstance that all sensations cannot at all reach the brain and its consciousness without a certain degree of reflex attention). The like holds good, however, for mere cerebral ideas, and in still greater degree.

An idea emerging from memory is also enriched and heightened by attention. It is certainly not changed in its general contents, but whereas in an idea for which one is inattentive everything is misty and dissolving, pale and colourless, indiscernible as if at a great distance, the outlines, colours, and details become the more defined, vivid, and closer the higher the degree of attention. The reason of this is, that all our ideas rest on sense-impressions, and only in these do the pale, spectral notions become clothed with flesh and blood, but that the sensuous representations become so much the more plastic and vivid, the larger is the part of the special nerve of sense and organ of sense which is drawn into sympathy, the wider the representation is peripherally projected outside. In sense-perception there thus occurs by the increase of attention an enrichment of content only so far as, by means of the enhanced conductivity, also slighter concomitant details reach the cerebral consciousness, and the perception of the vibrations of attention themselves becomes more intense. In the idea of memory, however, beside these moments there is also added the enhancement of sensuous vividness and definition.

To this must in all cases be added the hitherto unmentioned prevention of disturbance by other perceptions, which is of the highest importance. Usually, namely, there exists in the waking state a certain sense of attention in the whole sensitive nervous system, which naturally is feeble for any single point of the same, and is only enhanced reflexively in this direction by a more strongly acting stimulus. Accordingly there usually arises a great division and distraction of attention, so that consciousness finds in itself an infinitely mixed content of merely weak perceptions. But if now there takes place a severe strain of attention in a particular direction, thus, *e.g.*, on a sense or the brain only, this, with the limited sum of energy of the organism, can only happen at the expense of attention in all other directions, and therefore all partial enhanced attention is a *concentration* of the same, which forms a contrast to the distraction. Instead of the infinitely numerous weak perceptions, consciousness now finds as its content one energetic idea, whilst the sum of all other perceptions is reduced to a minimum. One sees that the content has essentially changed so much that it perfectly suffices for the explanation of the changed state; there is nothing present which pointed to a gradual change of consciousness in itself. It is, however, on the other hand, obvious how easily a defective discrimination of attention and consciousness may lead to the opinion that consciousness, just as much as attention, has degrees; and it will often be found that consciousness is spoken of where attention is meant. Attention may have degrees, because it consists of nervous vibrations, and in all nervous vibrations the magnitude of the vibrations of amplitude conditions the intensity of the sensation; consciousness, however, can have no degrees, because it is an immaterial reaction, which either does or does not occur, but, if it occurs, always takes place in the same way.

The distinction between consciousness and *self-conscious-*

ness has been already indicated at the beginning of this chapter. Self-consciousness can, of course, not be conceived without consciousness; how far a complete absence of self-consciousness can be in fact established must still remain doubtful, since, indeed, self-consciousness also is in the first instance instinctively born as so-called slight self-feeling. Thus much is certain, that a very clear consciousness occurs pretty often with the minimum of self-consciousness; nay, even the more clear becomes the objective consciousness in the same individual, the more self-consciousness disappears. Nobody is in a position really to enjoy a work of art unless he really forgets himself. In the same way self-consciousness almost entirely ceases when one is steeped in some scientific book; but when one is productive and absorbed in deep reflection, then one is so absent not merely from the surroundings, but even from oneself, that no thought remains for one's own most important interests; nay, even, on being suddenly addressed, one has first to recollect one's own name. And yet in these moments consciousness is clearest of all, just because it is wholly merged in the subject, *i.e.*, attention has reached the highest degree of concentration. This absorption in a subject is, however, necessary wherever the ideational process is called upon to do something considerable, except in practical questions of personal interest, because here all the aims of the whole life are to be regarded in their importance with respect to one another; thus the identity of the Egos of different times, the personality, plays a leading part. For the same reason, however, exclusively practical natures also, who can never forget themselves and their aims and interests, are regularly devoid of every higher scientific and artistic faculty.

One sees, then, that consciousness and self-consciousness are very different things; nevertheless the confusion of the two is something quite common. For example, one says of a somnambulist that in that state he is without consciousness, whilst his performances (poems, written com-

positions) attest a very clear consciousness; but he is certainly without full self-consciousness, since his attention steeped in a one-sided object, is wanting to all other perceptions that do not cohere with this particular object, and therefore also no remembrance of the other aims and interests arises in him which do not touch this object.

So far as complete self-consciousness includes the memory of all ends and interests which previous Egos have ever had, we often talk of *recollection;* and where one may correctly say a man was at such and such moment, in such and such an action, without his senses or without self-consciousness, one often says incorrectly he was without consciousness. On the other hand, one often says, when somebody loses or has lost consciousness (*e.g.*, in swoon, stupefaction), he is or is becoming senseless, or is losing self-consciousness; in this case the confusion of the words says too little, as in others too much. Now, however, it is clear that self-consciousness has degrees, for it is most perfect when it merely embraces the Ego of present mental activity, and is the more perfect, *i.e.*, its degree is the higher, the more Egos of past or future action it embraces. For self-consciousness is not indeed, like consciousness, bare, empty form, but it is consciousness *of a quite definite content*, the self; and as this definite content already belongs to its *notion*, the degree of self-consciousness must also rise and fall with the degree of this *content*. Consciousness, on the other hand, leaves its content quite undetermined; it only requires a content at all, if it is to come to manifestation, to reality; in its essence, however, it is *pure form*, and therefore its notion cannot admit of differences of degree in consequence of the varying nature of the perfectly indifferent content. But if this difference between consciousness and self-consciousness is not yet, or at least not in this respect, cleared up, it is no wonder that, through the frequent confusion of the two notions, one becomes imperceptibly accustomed to believe also in gradual differences in consciousness itself. Still

more pardonable becomes the illusion when attention and self-consciousness mingle; when, *e.g.*, I listen to a signal with fullest self-consciousness, knowing that my whole life-happiness is dependent thereon, and the sound of a distant shot finally reaches the ear, I can also fall into the error that the consciousness with which I have now heard the sound is degrees higher than that with which I should have casually heard it as a passer-by. But if one conscientiously deducts the several elements: first the thought that the whole Ego of the future depends on the sense-perception of the next moment, then the thought that it is I myself who am intentionally straining my attention, then the muscular tension and the perception of the attention as such; finally, the strengthening of the sensuous perception, its greater definiteness, &c., one will be obliged to grant that the residue remaining to consciousness as such is the same in both cases, and that the differences only affect partly the content presented to consciousness by the brain, partly self-consciousness.

After the common illusions of human introspection have been thus laid bare, the assertion will have lost its paradoxical air that the so-called highest and lowest consciousness, that of man and the lowest animals, are as consciousness quite alike, and are only distinguished by the content presented to them. We saw that the simple sensuous qualities, of which all sense-perception is compounded, are reactions of the Unconscious on the material vibrations of the central organ (brain, ganglia, animal and vegetable protoplasm); it is matter of course that the reactions take place according to the kind of the vibrations, turn out the stronger and more vivid the stronger are the vibrations, and are more definitely compounded and more clearly discriminated from other similar sensations, the more definite and varied are the vibrations, and the fewer differences of external stimuli they bring to manifestation in the central organ.

It is accordingly obvious that the eye of the snail,

which, according to exact observations, must literally compensate all the five senses without its being able to distinguish therewith more than bright and dark in general, that this eye causes vibrations in the central organ, which, neither in respect of vision, smell, taste, hearing, and touch, exhibit such great differences as in animals with distinct sense-organs, nor are capable even of considerable variety within each of these special provinces of sensation. But that which gives the power of distinguishing one perception from another confers also *definiteness*, and therefore perceptions are the more indefinite the lower we descend in the animal kingdom. This indefiniteness is only to be conceived in such a way that in the perception the detail is wanting which in higher organisations determines differences. If we eliminate this detail from perception, it will, however, become *poorer in content*, for there only remains over *the universal*, which is ever *the same in the midst of difference.* All indefiniteness of perception thus depends on poverty, whereas richness in content is the ground of definiteness and distinguishability. We can now say wherein the distinction of an apparently lower consciousness consists: *in the slight intensity and the poverty of the content presented to it; in the material scantiness both of the individual perception and idea, and of the whole accessible mass of ideas.* When I look at a single point of light on a dark night, I see it sharply defined as a point with a definite degree of brightness and the background in a definite degree of darkness. I also see both in quite definite colours: this is the wealth which lies in this single perception. The snail, however, does not see this point at all, or, if it is very bright, it sees a weak shimmer of light before it, and of all else it sees nothing: that is the poverty of its perception.

But, moreover, the snail sees with much less intensity, because with less attention. The enfeeblement of attention in all other directions, coincident with concentration in a single one, proves the limited total amount of the

same for a definitely constituted being, which manifestly is related to its total nervous energy. Nothing is more obvious than that the total quantity of attention varies in the animal series with the development of the whole nervous system. Thus a snail with the utmost possible strain of attention at a point of light will hardly be able to apply as much attention as I, when I do not in the least think about that point of light at all; for the central organ of the snail stands in any case lower than my *corpora quadrigemina* which receive the visual impressions, and beyond which they do not reach when the brain is occupied with other matters. We have now a tolerable picture of the consciousness of the lower animals with a single perception; and yet consciousness is always the same, only the matter presented to it is so much weaker and scantier.

The disproportion is still more increased when we take into account the whole thought-material which underlies comparison, abstraction, and combination; then we soon see that the indefiniteness and obscurity of the single idea is still more exceeded by the poverty of the whole sum of experiences which are at the command of such an animal and by the incapacity of a central organ to retain sufficiently in memory the experiences once had, or at all to work them up into more manageable partial ideas (concepts). This hardly needs further development. The result of it all is the confirmation of the proposition derived from our principle, that consciousness as such, *i.e.*, in its form, is everywhere the same, and is only differentiated by the matter presented to it; for nowhere did we have occasion to ascribe to consciousness itself differences of degree, as we are obliged to do, *e.g.*, in the will, even apart from its content; the principle has thus stood even this final test.

5. *The Unity of Consciousness.*—At the close of this chapter the question forces itself upon us, "*What is unity of consciousness?*" We can, of course, agreeably to our principles, only regard the question here from the empirical

side. Thus we cannot refer, for example, to the unity of the underlying individual psychical essence, because we do not yet know anything at all of this psychical existence, its individuality, and its unity, but, on the contrary, can only learn something of it by answering this question. Moreover, the advocates of indivisible individual souls must allow that even the unity of consciousness may be resolved into a multiplicity of strictly separated and perfectly incoherent consciousnesses, whereas they must acknowledge the unity of the mind underlying these different consciousnesses. I allude only to such examples as Jessen cites in his "Psychology," of a girl who, after an intense lethargy, had lost *all* her memory without enfeeblement of her mental faculties and capacity for instruction. She had to begin again to learn her alphabet. The attacks were repeated, and after each the memory of the immediately preceding portion of her life had disappeared, whilst that of the one before the last reappeared in its place unweakened, so that she always resumed her studies as if she had left them off before the last attack but one. This example only presents phenomena in a more striking and complete form, which in a weaker degree and more partial way may be observed everywhere. We can only recognise a unity of consciousness between a *past and present* moment where in the present there is the memory of this past moment, or where there is at least a possibility of this memory. In strictness one can speak of a real or actual unity of consciousness only in the case of actual memory, whereas with merely possible memory the unity of consciousness is merely possible or potential.

If we further see what we have in actual memory, what is added to a representation when I know it as a *well-known* idea or *memory*, it is, according to B. Chap. vii. vol. i. pp. 305, 306, an instinctive feeling, which, analysed into its discursive moments, has the following meaning:—I have in addition to the main idea a very much weaker contignous idea excited by the former, which I know to

be in causal relation with a former similar idea. Place and time of this former idea may likewise be fixed by means of the accompanying circumstances of the same surging up in memory.

It is thus nothing but the *comparison* of a present and a past representation, that determines the unity of consciousness between temporally separated moments. The possibility of this comparison is attained by this: that of two *present* ideas the one represents the present, the other the past; and the latter again becomes possible by this: that I know the present idea to be in causal connection with a former one similar to it. While, now, of the two ideas, the one represents the past, consciousness comprehends in this indivisible act of comparison the representations of the present and past consciousness into one, and therewith becomes conscious of the unity of consciousness for that past and the present representation. To wit, if I have two conscious representations, there exists a consciousness of the one and a consciousness of the other idea; and I should never have the right of maintaining a unity of these two consciousnesses if I could not prove it. But now, when I bring together two ideas for comparison, I merge both consciousnesses in the third consciousness of the comparison, and in this way have brought their unity to immediate intuition. The comparison is thus the moment which first of all makes possible the thought of a unity of consciousness, and with the possibility of comparison the possibility of the unity of consciousness also ceases.

As we have here seen the act of comparison to be the judge of the unity of consciousness of a past and a present, *i.e.*, temporally separate representations, so does it also decide in respect of spatially separated ideas, *i.e.*, such as are excited by different material parts. A human brain has a certain magnitude, and the representations which arise at one end of it are many inches removed from those arising at the other end; nevertheless we do not doubt the

unity of the cerebral consciousness. The reason is simply this: that in the healthy waking state every idea arising anywhere in the brain may be *compared* with any one arising anywhere else. On the other hand, the ideas of the spinal cord and the ganglia, as they must of necessity exist in reflex movements, &c., in injuries of the viscera and the like, have in general no unity of consciousness along with the cerebral representation; they have rather each their *separate* conscious existence, since they cannot be taken up into a common conscious act of comparison. Only a few strong sensations of the lower nerve-centres are comparable, and a unity of consciousness possible so far as it is exhibited in common feeling. Whilst for the different nerve-centres of an organism this unity of consciousness is established with stronger stimulation of the one or the other, it is in no way to be established for the nerve-centres of different individuals, unless with partial coalescence of two organisms by abortion, or between mother and fœtus, where echoes of such unity of consciousness are found for strong stimulations.

The cause of these phenomena is obvious. In the brain, beside the special commissures, innumerable nerve-fibres traverse the whole mass and establish a manifold intimate union of every particle with the rest; the spinal cord has already a much more imperfect union with the brain; the sympathetic nervous system is only connected with it by the single *nervus vagus.* In individuals which have grown together only more or less casual concrescence of subordinate nerve-strands can take place; in the case of separate individuals all union is wanting. The more perfect is the *path* between the functional part of the central nerves, the less stimulus it needs to propagate the stimulus of the one to the other unenfeebled and undisturbed; the more imperfect and longer the paths of conduction, the greater the resistances, the stronger must be the stimuli, if they are to be propagated to the other central spot, and the more obscure and more effaced are they on arrival

For him who is accustomed to the endless intermingling of the phenomena of physical vibrations without any mutual disturbance, this mode of viewing the nervous processes, according to which each thought at one spot of the brain is simultaneously telegraphed to all other spots, will not appear strange; it is impossible to interpret the anatomical construction of the brain with its numerous connecting fibres in any other manner. The *capability of conduction* it is then, in fact, which physically conditions *the unity* of consciousness, and with which this is *proportional*. We lay down, then, as a principle: *Separate material parts give separate consciousness*, a proposition which is as much recommended *à priori* as the distinct individuals confirm it empirically. As long as the Australian ant is an animal, its fore and after body acts with undivided consciousness; as soon as one has cut it in pieces, the unity of consciousness is abolished, and both parts turn against one another.—We further assume: the comparison of two ideas produced at different places only becomes possible by the vibrations of the one place being carried over to the other unenfeebled and undisturbed; only by the comparison of the two representations is the abolition of their two consciousnesses in the indivisible consciousness of the act of comparison possible; with it, however, we may add, it is also *eo ipso given*. (The *metaphysical* condition of the identity of the psychical unconscious substance, which will be discussed in Sect. C. Chap. vii., is here, of course, tacitly assumed. Without it the physical condition of nerve-conduction would be just as vague as the former without the latter.) The Siamese twins refused to play draughts with one another, thinking that this would be as if the right hand should play with the left. The negresses coadjunct at the lower part of the back, whc allowed themselves to be exhibited at the beginning of 1873 in Berlin, under the name of the two-headed nightingale, are said to have sympathetic feelings of their mutual sensations in the lower extremities., *i.e.*, possess a unity of

consciousness with respect to a certain sensitive area in spite of the duality of their persons. But if one imagined the union of the *brains* of two men possible by a bridge as capable of conduction as is that between the two hemispheres of the same brain, a mutual and indivisible consciousness, including the thoughts of both brains, would immediately embrace the hitherto separate consciousnesses of both persons; each would no longer be able to distinguish his own thoughts from those of the other; *i.e.*, they would no longer know themselves as two Egoes, but only as one Ego, as my two cerebral hemispheres also only know themselves as one Ego.

IV.

THE UNCONSCIOUS AND CONSCIOUSNESS IN THE VEGETABLE KINGDOM.

THE question of the animation of the vegetable kingdom is an old one; outside Judaism and Christianity it has been almost everywhere affirmed. Our time, which has been nourished by the theories of these two systems of belief, and has not yet by a long way bridged over the gulf between spirit and sense, rent asunder by Christianity, has with difficulty admitted the kinship of men and *animals;* no wonder that it has not yet been able to elevate itself to the admission of the *vegetable* soul, since its physiology is accustomed to regard, even in the animal, the organic functions and reflex actions as merely material mechanisms. The subject has been best treated by Fechner in his memoir, "Nanna; or, The Psychical Life of Plants" (Leipzig, 1848), if also with an infusion of much of the fantastical; comp. further Schopenhauer, "On Will in Nature," chap. "Vegetable Physiology," and Autenrieth, "Views on Nature and Psychical Life." I shall content myself with giving a short exposition of the doctrine, and with showing the considerably greater clearness which is introduced into the whole question by the distinction of unconscious and conscious psychical activity. I am convinced that many a one, who was obliged to maintain a negative position owing to the previous mode of treatment, will be reconciled to the doctrine of plant-animation when the notions of the Unconscious and Consciousness are kept quite apart.

1. *The Unconscious Psychical Activity of Plants.*—The plant has, like the animal, organic plastic activity, *vis medicatrix,* reflex movements, instinct, and the impulse towards the beautiful; and if in the animal the phenomena must be regarded as unconscious effects of a soul, ought they not also so to be in the plant? If the unconscious psychical performances of the plant do not rise to the mental processes of the animal, but remain entirely sunk in corporeity, should therefore their soul be less soul, if that which it accomplishes is just as perfect in its sphere as that achieved by the animal in its sphere, nay, even far superior, because it builds up the refractory inorganic substances into higher and higher stages, whereas the animal, on the whole, only guides and watches over their natural degeneration? Let us consider the several movements in their order.

(*a.*) *Organic Formative Activity.*—This works, as in the animal, according to a typical generic idea, which, it is true, allows a great latitude in respect of number of branches, leaves, &c., but nevertheless is still perfectly definite in the law of arrangement of the leaves, the form of leaf, inflorescence, and internal structure. This morphological type possesses the greatest constancy and unchangeability, although the nearer definition of the same for the physiological functions is tolerably indifferent. Accordingly, one cannot look upon this constancy as a result of useful adaptation in the struggle for existence; rather one has to perceive in the morphological type of the vegetable kingdom essential results of an ideal formative impulse of the Unconscious.—As in the ascending organisation of the animal kingdom typical anticipations are especially remarkable which only become suitable at higher stages, we have to mark such anticipations of the unconscious formative impulse of Nature in the vegetable kingdom likewise. Thus, *e.g.*, higher Algæ exhibit an axis with lateral regularly arranged expansions which would at once be designated by the ignorant as stem, root, and

leaves, whilst according to the dogma of the botanical system the Algæ are root and leafless plants. Hence the botanist calls the leaves of the Sargassum only "leaf-like expansions," and the roots "root-like structures," which want at the apex the "root-cap,"—and we will not disturb him in his faith.

It is true one can divide the plant as one may divide lower animals, so that each part still possesses the capability of again completing the type from itself. But as in animals, so also in plants, the division is by no means unlimited, if a completion is to remain possible. In the plant, too, all parts are in reciprocal connection. Every part nearer the earth works up the materials precisely as the proximate part must receive it for further elaboration. The root of an oak would never nourish a beech, nor a tulip-bulb a hyacinth. There takes place also in the plant a harmonious interaction of all the parts, and this can only conduce to the end of the exhibition of the specific type in all the successive stages of development.

If in winter one conducts a branch of a tree standing in the open air into a hothouse, the tree unfolds its leaves and flowers, whilst the rest of the tree retains its rigidity. The water required by the tree for this purpose is absorbed by the roots, as observation shows. Thus the latter are stimulated to increased absorption by the increased vital action of a branch (Decandolle, "Vegetable Physiology," i. 76). How far a direct union by conduction takes place between the several parts of the plants we do not know, although the spiral vessels appear to point to that; but we just as little know in the case of the animal how far the harmonious interworking of the performances of the single parts is effected by conduction, and how far it is due to direct clairvoyance, as that of the individuals in the commonwealth of bees or ants.

Propagation takes place in the animal and vegetable kingdoms on precisely the same principles, by cellular division, spores or budding, and sexual generation. The

similarity in both provinces is, especially in the first stages of generation, so striking, that precisely the same reasons necessitate the assumption of an unconscious psychical influence in the origin of the plant as in the origin of the animal. The embryonic states certainly part company very soon after, as is not otherwise to be expected, according to the difference of the types to be produced; but in both the progressive development is a continuous struggle of the organising soul with the tendency of the material elements to decomposition, degeneration, and destruction of form. Only by the constant prevention of these degenerating processes and ceaseless reinstatement of the circumstances urging to continued formation, is it possible at any moment for the formed organic matter to get the better of the relatively formless inorganic matter, for a new higher stage of the specific type to be realised.

Every single cell takes part in these operations; for the living part of every plant, as of every animal, consists of the sum of the living cells, except that in animals on the average the changes of form and fusion of the cells are somewhat more extensive, and the intercellular substance secreted and nourished by the cells is more copious. The cell is the chemical laboratory for the preparation of the various organic combinations; the division and amalgamation of the cells are the sole means for the setting up of the external form. At the same time just as strict a division of labour is carried out as in the animal; one kind of cells has to form this material, another that. As in the animal the cells are elaborated into bones, muscles, sinews, nerves, connective tissues, and epithelial cells; so in the plant into medullary cells, wood cells, cortical cells, sap cells, starch cells, &c. Each cell absorbs only those substances which it can make use of, or if it takes up aught else, it sends this on unassimilated. A circulation of sap takes place in each single cell, and likewise in the whole plant. It is true open vessels do not exist, but

the circulation of the sap is effected by the endosmose and exosmose of the several cells; still, however, a perfect circulation of ascending and descending juices takes place, as a similar circulation takes place in all the parts of the animal body that are wanting in nutritive vessels (*e.g.*, in the deciduous parts of the umbilicus, the bones, sinews, cornea, &c.), or with which the nutritive vessels do not directly communicate. Hales cemented a tube to the upper end of a lopped vine seven inches long; in the first experiment the height of the sap which had risen from the surface of the section into the tube amounted to 21 feet; in the second, quicksilver poured in from above was raised to the height of 38 inches. Hales calculates from this the energy of the ascending sap to be equal to five times the force of the blood in the femoral artery of a horse. One sees what in the higher animal is due to the heart's action is in the plant the sum of the united absorption of all the sap cells. This difference frequently recurs, that the same actions in the animal are produced by centralisation, in the plant by decentralisation: in the animal monarchically, in the plant in republican fashion. But the absorption by the cells is by no means merely mechanical; it takes place rather with selection of direction and material, for otherwise no circulation and no distribution of nutritive matters to different cells could take place.

The directions of the growth of plants and parts of plants are, as a whole, conditioned by gravitation and light, now in the sense that they coincide with the directions of these forces; now in this, that they strive to place themselves in a transverse position with respect to the latter; now in such a way that both forces neutralise one another. The complications hence arising become, however, still more intricate by this: that certain plants change their behaviour to these determining forces according to the phases of their stage of development, if they are brought by special circumstances into a position where their normal behaviour would be inappropriate in

respect of their vital needs. Thus Duchartre found, under the bottom of a water-butt, numerous fungi of the Mushroom family which had been compelled to grow from above downwards, but had deviated from the perpendicular at least 30°, and of which those more developed with opening and spreading caps exhibited a geniculate bending of the stalk upwards, about 5^{mm} from its end, through which the normal position of the opened cap was restored. Seven examples of Clariceps, which were artificially brought into the inverted position in a glass tube, showed an analogous behaviour, only that the stalks formed here no angle but an arc of 3 to 5^{mm} ("Der Naturforscher," 1870, p. 194).

In organic adaptation, likewise, the vegetable will bear comparison with the animal kingdom. There is even much which in animals is cared for by instinct, but which in plants, on account of their greater weight, is provided for by organic mechanisms, which again can be set up only by unconscious psychical activity. Here, too, the transitions are of such a kind that we cannot always sharply distinguish mechanisms and instincts.

First there is a series of phenomena for the better nutrition of plants by retaining putrefying animal matters. The aborted leaves of the common Teazel—*Dipsacus fullonum*—form about the stem a kind of basin, which is filled with rain-water, and in which many accidentally drowned insects are often found. The like is found in a tropical parasitic plant—*Fillandsia utriculata.* The Sarraceniæ have leaves which, latterly rolled together, form an ochrea, and are in part provided with opercula. Short, stiff hairs prevent imbibing insects from returning from the water-holding ochrea. *Nepenthes destillatoria* has the urn with an operculum as appendix of the shallow leaves. It closes the opercula by night and secretes sweetish water, enticing insects, which by day is again gradually evaporated from the open urn. The sweetness of the water is produced by hairy, glandular, excretory organs. *Dionæa*

muscipula has a lobed divided appendage on each leaf, which is closely set with small glands, with six aculeæ in the middle and setaceous cilia at the edge. When an insect, attracted by the juice, sits on the two lobes, these shut up, and only again open when the animal has become quiet, *i.e.*, when it is dead. Curtis sometimes found the captured fly enveloped in a slimy substance, which appeared to act as a solution on the same. The sun-dew, *Drosera*, has very red bristly hairs on the leaves, each of which terminates in a gland, from which in hot weather a small viscid pearly drop is exuded. This viscid sap retains small insects; the hairs quickly curve over the same, and gradually the whole leaf bends back with the apex towards the base (A. W. Roth, "Beiträge zur Botanik," 1 Thl., 1782, p. 60). This sap is at the same time poisonous for insects (also unwholesome for sheep), and thereby compensates for what the plant wants in quick irritability. Roth often found in the open air leaves of the Sun-dew bent together, which always enclosed insects more or less in a state of decay. "Let any one imagine in boggy water small utricular leaves, bent together into a hollow tube with open mouth, irritable at their borders, with hair-like soft threads, whilst the opening acts at the same time venomously on small animals, and the inner surface of the cylindrical tube adapted for absorption. One would thus have an image, which would be compounded of the convolute or urn-shaped leaves of the Sarracenia and Nepenthes, of the irritability of the leaf-appendages of the Dionæa, and of the irritable but poison-secreting hairs of the Drosera. One gets, however, also at the same time the actual picture of the organisation of a small insect remarkable for its instinct—the green hydra of sweet water, *Hydra viridis L.*" (Autenrieth); for the touch of the mouth of this creature also acts poisonously. That such plants thrive more luxuriantly on products of animal putrefaction absorbed by the leaves is experimentally proved in the case of the Dionæa.

Very wonderful also are those contrivances in plants which subserve sexual propagation. In erect flowers the stamens are generally longer than the pistils; in pendulous ones, the reverse. Where the pollen grains cannot without assistance fall on the stigmata, and the wind is not sufficient to carry them away, insects have to perform this office. Hence the attractive bright colours of flowers, their far-reaching scent, which is always developed most strongly in the daytime, when the insects most suited to the particular flower swarm; hence the sweet sap at the base of the flower, which compels the dainties-loving animal to creep deep enough within, so that it brushes off with its bristly body the pollen, which then comes to adhere to the pistil, either of the same or of another flower. In the Asclepiadeæ and Orchids the pollen adheres to the insect by means of a sort of bird-lime. *Aristolochia clematitis* has a bellied flower with a narrow entrance, which by means of lateral hairs prevents the exit of the little midges that have crept in. These swarm about in their prison until they have stripped off the pollen with their feathered antennæ and brought it to the stigma. Immediately after fructification the hairs begin to dry up and fall off, and release the flies from their prison.

If the pollen grains become wet, they expand and burst; then fertilisation becomes impossible. In this way rainy weather becomes very injurious at the blossoming of the grain. The precautionary measures of the flowers for escaping the wet are very numerous. In the Vine and the species of Rampions fertilisation takes place under the protection of the petals cohering by their tips; in the Leguminosæ the standard (*vexillum*) accords the same protection; in the Labiatæ, the upper lips of the corolla; in the species of Calyptranthe, the operculate calyx. Many plants close their corolla when it is about to rain (this is instinct); many also by night to protect themselves from the dew; others at night-time bend round their flower-stalks, so

that the open side of the corolla is turned aside. *Impatiens noli me tangere* hides even its flowers under its leaves by night. In most aquatic plants dry fertilisation is rendered possible by this, that they do not bloom before their stalks have reached the surface of the water. The Alga fixed to the sea-bottom flowers in leafy folds, which it is true are open laterally, but hinder the entrance of the water by means of excreted gases. The Water-crowfoot (*Ranunculus aquaticus*), whose flowers are flooded at high water, is protected by the pollen dropping out of the anthers at a time when the flower is still a close, air-containing bud. The Water-nut (*Trapa natans*) lives at the bottom of the water until flowering time, when the petioles, ranged side by side into a kind of leaf-rose, swell to cellular bladders filled with air, and raise the whole plant to the surface of the water. Thus florescence and fructification take place in the air. When this is over, the bladders are filled with water, and the plant sinks again to the bottom, where it then brings its seed to maturity. Still more complicated is the arrangement of the species of Utricula for the same purpose. Their strongly ramified roots are covered with a multitude of small round bladders (*utriculi*) possessing a kind of movable lid, and filled with a mucus that is heavier than water. By means of this ballast the plant is retained at the bottom of the water, until at flowering time the mucus is got rid of by excreted gases. It now slowly rises to the surface, flowers and fructifies, and is then again drawn down, whilst the root again secretes mucus, which now on its part drives out the air from the little sac (Decandolle, "Vegetable Physiology," ii. 87). The Vallisneria is an aquatic plant with distinct sex (diœcious), which grows attached at the bottom of the water. The flower of the female plant sits on a long screw-shaped stalk, which subsequently extends and lifts the flower above the water. The male plant has a shaft tending straight upwards. The four-leaved spathe is split into four pieces through further expansion of the inner parts, and now the

male organs of fructification swim freely about in the water in thousands. As soon as a female flower is fertilised the stem again spirally contracts, and thus the seeds are brought to maturity below.—Also in *Serpicula verticillata* the male flowers, when near rupture, are released from the opened spathes and swim to the female, whereby they rest on the apices of the replicate sepals and petals.

"One species of plant jerks ingeniously far and wide the ripe seed-grains by means of the elasticity of the capsule which flies open spontaneously. The beards of oats are, on the contrary, wound round spirally, and are so hyproscopic that the first rain unrolls them, and compels the thereby backwards-thrust grain to creep under the nearest clod, and so to betake itself beneath the earth for future sprouting. Other plant-seeds are provided with wings or plumose pappus, in order to be borne through the air. Others even have little hooks, in order to cling to passing animals, that they may be again dispersed by these means to other places" (Autenrieth, 151). The ripe fruits of the Stork's-bill are jerked off, by the curling back of the indurated styles, three to four feet from the plant. The extending style, by becoming damp, makes a spiral revolution, which chiefly causes the sharp point of the seed to strike the earth somewhere, into which it must now penetrate. If drier weather occurs, little bristles on the seed-corn, which act as barbs, prevent a recoil, and the shortening is followed by a drawing of the style towards the grain, so that now, with repeated moistening, the newly gained point of support for the end of the style permits a deeper penetration into the ground. Since the lower part of the style itself is also provided with barb-like bristles, on change of weather the fruit can interpenetrate the soil even to complete disappearance in the manner of a corkscrew.

Many seeds cover themselves for protection with a hard shell, and in order to be devoured and carried farther by

animals, which in their excrements directly supply them with manure, they envelop themselves in savoury pulp (stone-fruit, grapes, gooseberries, currants, &c.), or they peripherally surround a carnose nucleus (strawberries, &c.) The seeds of aquatic plants are usually heavier than water, and accordingly sink to the bottom. Those of most lofty trees, on the contrary, are light, and are transported on the surface of the water far and wide to new stations by wind and current. The mango-tree (*Rhizophora mangle*) grows, at the mouths of rivers and on flat sea-shores, in the mud, so far as the same is covered over by the salt flood, thrives therefore only on a narrow strip, wherefore the seeds must take firm root beside the mother tree. On the receptacle of the flower of this tree now there is gradually produced a pulpy hollow growth, by which the seed, with the help of a stalk 1½ inch long, is pushed out, so that after about a year it depends perpendicularly. The seed itself is 10 inches long, thicker and heavier towards the free end, but terminating with a puncheon-shaped point. It sprouts within its covering, and even develops an important root. Through its form and weight the falling seed penetrates water and mud three to four feet, and penetrates the ground yet one inch more, where it can then soon fasten itself with its root.—These examples may suffice to show, that even the vegetable soul performs sufficiently wonderful works in setting up appropriate mechanisms, whose end is even in part tolerably remote.

(*b.*) *The Recuperative Power of Nature.* — Animals have each organ only just as often as the whole organism requires it for its maintenance; hence the endeavour to replace a lost one in the same way. The Idea of the plant demands a numerically unlimited repetition of the same organs; wherefore also a partial loss usually is not prejudicial to the persistence of the whole. Here, then, no reason exists for restoring the lost parts at the same place and in the same manner, since the plant finds it

much easier to accomplish the replacement at other places by means of the already existing buds. Nevertheless, sufficient opportunities are afforded for seeing that in the plant likewise the *vis medicatrix* is active, it is only necessary to deprive a plant of a certain class of organs which is essential for its existence, *e.g.*, all the roots, when it will immediately put forth new roots, or die when it has no longer the requisite force. Also the process of cicatrising wounds or cut surfaces is altogether analogous to that of animals.

Finally, in the plant as in the animal, the whole life is an infinite sum of infinitely numerous acts of the *vis medicatrix,* since at each moment the destructive physical and chemical influences must be paralysed and met.

(*c.*) *Reflex Movements.*—The physiologists distinguish reflex movement and "simple stimulation of contractile tissue." This is correct when one inquires where the reflexion of the stimulus into motion takes place; namely, whether the seat of reaction lies at the stimulated spot itself or at another; it is, however, a mistake to try to find herein a difference of principle. The essence of reflexion in both cases is conversion of an active stimulus into reactive motion; an absolute restriction to the irritated point is at the same time never met with; but whether the conduction proceeds a little further or not can make no difference in principle. That which stamps a reactive movement as reflex action is the inadequacy of merely material natural laws for its production; only when we can rest content with these (*e.g.*, elasticity, chemical reaction), only then can we deny reflex action, whose essence is an unconscious psychical, an instinctive reaction. Whether a reflexion is effected by nerves and muscles, or by other equivalent mechanism, can by no means justify a difference in principle, since the strictly active matter is still always the protoplasm, whether free or enclosed in various kinds of cells.

If the water inhabited by a polype be shaken, the polype contracts into a bundle. This will be called by every one reflex action, no matter whether in future, in the homogeneous slimy mass of the polype, the analogues of nerves and muscles be discovered or not. And when the *Mimosa pudica*, shaken by the tread of the passer-by, shrinks along with its leaves, is this not reflex action? When the irritated penis is erected in virtue of change of blood-circulation, this is admitted to be reflex movement, and in the case of the plant is not the altered sap-circulation to be considered just as good a means to reflex movement? For the plant indeed does not need the continuous quick movements for which the animal requires its muscles, accordingly muscles would be a useless luxury for it. In the animal the sign of reflexion is that about the same reaction occurs, whether one applies a mechanical, chemical, thermal, galvanic, or electric stimulus; the same is, however, also the case with plants, whereas dead mechanisms are wont to respond only to a quite definite stimulus. Strong electric shocks annihilate animal as well as vegetable irritability. If a needle, connected with the positive pole of a galvanic battery, be stuck through the stalk of a barberry flower, and the wire of the negative pole be united with a petal by means of a lightly affixed moist piece of paper, at the moment of closing the chain the stamen belonging to the leaf springs over to the pistil. If the pole be changed, the current is less active, just as animal preparations more powerfully react when the negative pole is united with the peripheral end. On opening the chain no movement takes place, just as with frog's thighs. According to Blondeau the constant current, with application of the necessary precautions, acts on the *Mimosa pudica* just as little as on animal muscles as a motor stimulus, whilst the intermittent induction current proves to be a very violent stimulus. The part of an irritated animal slowly returns to its position on the abolition of the stimulus; thus, *e.g.*, an irritated oyster or

polype quickly shrinks, but opens slowly. A repetition of the stimulation blunts the irritability, rest restores it. Further, the irritability manifests itself differently according to condition of health, age, sex, season, state of the weather, and other circumstances. All this occurs with plants precisely as with animals.

The reflex movements of the *Dionæa muscipula* I have already mentioned above. If an insect deposits itself on a leaf of the same, it is first of all retained there, being caught by the hairs, and then gradually the whole leaf coils round it. Here we have upon a simple stimulus at a single spot a partly simultaneous, partly appropriate successive participation of many places of the leaf, precisely as we are accustomed to find in animals, only that instead of the monarchical command of a nerve centre, a republican participation of all the parts in harmonious agreement has place. The phenomenon is more centralised, and therefore more animal-like in all leaves, anthers, &c., where the seat of reaction is to be sought in the joints, by which these parts are fastened.

In many flowers the ripe anthers gradually spontaneously incline towards the pistil, in some a joint is formed, which, on the stimulus of some insect, jerks the pollen on to the stigma. In others the crooked stigma is also irritable, and extends on a stimulus affecting it, whereby it carries off pollen from the anthers. *Mimosa pudica* has bipinnate leaves, and the leaflets, nerves, the chief leaf-stalk, nay, even the branch, have each their special movement. If cautiously avoiding all shaking, some strong acid be applied to a leaflet by degrees, all the adjacent leaves close up; according to Dutrochet, the velocity of propagation amounts from eight to fifteen millimetres in a second in the leaf-stalks, in the stigma, at the most, from two to three millimetres. Here the conductivity is actually visible. The same result is reached when a leaflet is gently scorched; the leaves fold up much beyond that required by the effect of the heat. Brücke, and sub-

sequently Bert, proved that in this remarkable plant the spontaneous movements, which consist in a raising and lowering of the petioles according to the time of day, are to be well distinguished from the movements resulting from stimulation, since the capacity of the plant for the latter is paralysed by ether vapours, which, indeed, act likewise narcotically on the nervous system of the animal, whereas the former are propagated unchanged. That the diurnal elevations and depressions depend on regular alternations of the sap-circulation is undoubted; by what means the tension of the upper and lower knots on the petioles is changed on occasion of a stimulus has indeed not been directly established for *Mimosa pudica*, but certainly for the above-mentioned pollen of *Berberis vulgaris*. Here, namely (as in most vegetable parts), an opposite tension on the part of various tissues takes place, in that the exterior coating strives to shorten the filament, the underlying protoplasm endeavours to lengthen it. If, now, a suitable stimulus approaches the inner side of the filament, the protoplasm contracts; and while, in this way, the previous equilibrium of the tensions is changed in favour of the exterior coating, this can realise its tendency to shortening, and by this means bends the filament. The action, which liberates the play of existing forces, is thus here a contraction of the protoplasm, precisely as in lower animals or as in muscles of higher ones.

It is impossible to mistake the thorough-going analogy between the reflex actions of animals and plants; the differences reach only just as far as the general arrangement of the organisms and as the special ends of each reaction differ. If, now, the reflex actions in animals have once for all been recognised as in the last resort acts of a psychical nature, one cannot avoid claiming this unconscious psychical element also for plants, just as one must reckon it to every animal part, which is still *per se* capable of reflex movements.

(*d*) *Instinct.*—We saw already in the animal kingdom the inseparability of instinct, reflex movement, and organic formation; in the vegetable kingdom they can still less be separated, for, on the one hand, on account of the defective means of movement for the plant, organic formation must accomplish much by appropriate mechanisms which the animals perform with instinctive movement (think of coition and the dissemination of the seeds), and on the other side the consciousness of plants stand so low, that the difference between the stimulus of reflex movement and the motive of instinctive action must shrink to a minimum. Nevertheless we shall still find abundant traces, which unmistakably confront us as the same as that which we call instinct in the animal kingdom. A polype instinctively betakes itself from the shaded half of its vessel to that illuminated by the sun, and when Oscillatoriæ do the same, when the sunflower almost dislocates its neck in order to turn its face to the sun, is that not to be called instinct? Dutrochet relates in his *Rech.* p. 131: "I saw the leaf of a plant standing in the open air, whose upper surface was covered with a small board, try to withdraw itself from the screen by means which were not always the same, but were always of a kind which must most easily and quickly lead to the goal; thus this happened now by means of a lateral bending of the leaf-stalk, now by a bending of the same leaf-stalk towards the pedicle."

Knight saw a vine-leaf, whose under side was illuminated by the sun, and whose approach to a natural position he had blocked in every way, make almost every possible attempt to turn to the light the right side, with which it was mainly necessitated to respire. After it had for a few days attempted to approach the light in a certain direction, and by bending back its lobes had almost covered its whole under-side therewith, it spread itself out and removed further from the window of the glass-house, in order to approach the light in the opposite direction

(Treviranus, Beiträge, 119). Frank (Die natürl. wagerechte Richtung, &c., Leipzig, 1870) has recently confirmed this, and extended it to a number of other plants. According to him also it is noticeable that this movement is always executed *by the shortest course*, the leaf turning now up, now down, now right, now left. The wonder is not diminished by the circumstance that the leaves, or leaf-stalks, lose this capability when their growth is complete, except when they are provided with special cushion-like swellings at the base of the stem, which on every occasion may again receive changes of dimension, which during the period of growth are to be looked upon as relatively violent modifications of the same.—Dutrochet covered the terminal leaf of a three-leaved bean-leaf (*Phaseolus vulgaris*) with a small board. As the shortness of the special leaf-stalk made retreat impossible to the leaflet, this took place by the *bending of the joint petiole*, whereas in the dark the board was not evaded. "If," says the investigator, "one sees how many means are here applied to attain the same end, one will be almost tempted to believe there dwells here a secret intelligence which chooses the most appropriate means for the attainment of the end." So, driven by the simple power of facts, does a naturalist utter a truth, which is only incomprehensible to him, because he is not acquainted with unconscious psychical activity. That there is here no mere reflex action on a stimulus is easy to see, for it is just the *want* of a necessary stimulus which is *evaded.*

Tolerably familiar are the phenomena of vegetable sleep, whereby the leaves are partly lowered, partly inverted, the flowers lower their heads or shut up. In fact, these phenomena have been already mentioned and find their end in protecting the pollen grains from the dew. That the depression of the petals, however, does not depend on mere exhaustion, we may easily convince ourselves; in their bent condition they are rather in a state of tension and elastic. *Malva peruviana*, by rearing the leaves

round the stalk at the tip of the branches forms in the dormant condition a kind of funnel, under which the young flowers or leaves are protected; *Impatiens-noli-me-tangere* forms out of the depressed upper leaves an arch for the young sprouts, some others enclose the flowers by folding the leaflets of their compound leaves. The time for sleep and waking are as different for plants as for animals. Many of our plants bend towards the sun, others punctually keep fixed times, no matter into what climate they are transferred, no matter whether it be summer or winter. One sees from this that these periodical movements also are partially independent of external stimuli and arise purely from internal conditions of the plant itself; they are simply instinctively regulated efforts.

In many plants the stamina incline towards the pistil for purposes of fertilisation, shed their pollen, and then return to their position; in others the pistil moves towards the stamens; in yet others, both mutually seek each other (Treviranus, Physiologie der Gewächse, ii. 389). In *Lilium superbum, Amaryllis formosissima,* and *Pancratium maritimum,* the anthers successively approach the stigma. In *Fritillaria persica,* they alternately bend towards the style. In *Rhus coriaria,* two or three filaments simultaneously protrude, describe a quadrant, and bring their anthers quite close to the stigma. In *Saxifraga tridactilytes, muscoides, aizoon, granulata,* and *cotyledon,* two stamens approach each other from opposite sides above the stigma, and again spread, after they have scattered their pollen, in order to make room for others. In *Parnássia palustris* the male parts move to the female in the same order in which the pollen matures, and indeed, when they approach the stigma, quickly and at once, when they again separate after fertilisation, in three periods. In *Tropæolum* they elevate themselves one after the other from the originally depressed filaments at the period of full bloom, and after the anthers have shed their pollen on the stigma

bend down again, in order to make room for others. One cannot wish for a clearer indication of instinct than is presented in these examples; for here the motive is the presence of the stigma, and the maturity of the pollen, but the order in which, and the fashion in which the stamens move to and fro wears just as much the semblance of caprice as any animal movement can.

Remarkable are the instinctive movements of climbing plants (*vide* Mohl, On the Winding of Tendrils). Such a plant first grows somewhat perpendicularly upwards, then its stalk bends horizontally, and describes circles, in order to seek a support in the environment, just as an eyeless caterpillar describes circles with its anterior parts to seek a new leaf. The longer the pistil grows the larger, of course, become the circles; that is, if the plant finds no support in the environment it seeks it in a wider circuit. Finally, if the stalk can no longer support its own weight it falls to the ground, and now creeps further in a straight direction. If it now finds a support it might either take no notice of it, or, for convenience sake, run indeed further along the earth in order not to be obliged to climb; in point of fact, however, it immediately grasps its support and climbs up by it spirally. Yet here, too, the plant still proceeds by way of selection; the flat side (especially in the young stalk) does not wind itself about dead organic or inorganic supports, but only about living plants, by which it eagerly climbs upwards, for the roots cleaving to the earth soon die, and it is then entirely assigned to the food, which it imbibes with its papillae from the clasped plant. Every creeping plant by nature either moves to the right or to the left, If one unrolls a young *convolvolus* from its support and winds it round again in the opposite direction, it will return into its original spiral direction, or will surrender its life in the endeavour. This too answers to the animal instincts. If however, one allows two such plants mutually to embrace without foreign support, and so to climb by one another's

aid, the one voluntarily changes its solitary direction in order to make this mutual embrace possible (Farmer's Magazine, repeated in the *Times* of the 13th July 1848). Thus, instead of adapting itself to the powerful change, the plant prefers to sacrifice its life; but when this change is judicious, it anticipates it of its own accord. Here one finds even the variability of animal instinct in the most remarkable form.

(*e*) *The Instinct for Beauty* in plants cannot in this place be further proved. I hold the assertion to be correct also for the vegetable kingdom, that every being builds itself up as beautifully as is compatible with the ends of its existence, and so far as it can subdue the stubborn material. Whether one considers the greatest or the least in the vegetable kingdom, the stately oak or the microscopic moss; whether one looks to the whole or the individual, to the glorious primæval forest or the fir cone, everywhere that truth will be found confirmed.

Thus we have again found the five moments in the vegetable kingdom in which, as in the animal kingdom, we perceived the effects of the Unconscious in bodily life. Accordingly, we are no longer warranted in refusing to the plant unconscious will and unconscious presentation. That we perceive no higher mental phenomena in the plant need not surprise us, since, indeed, the purpose of the vegetable kingdom is altogether only this—to prepare the ground, the food, and the atmosphere for the animal kingdom, although we must also admit that at the same time the creative principle works itself out independently in the vegetable kingdom in its own fashion.

2. *Consciousness in the Plant.*—The result thus far was not difficult to foresee, and needed no great penetration. More difficult, however, is the question whether in the plant there also dwells a consciousness.

Old as Natural Science is the dispute concerning the vegetable or animal nature of certain organisms, and even at the present day it is as little capable of decision as in

the time of Aristotle, for the simple reason that as an alternative it does not admit of decision.

Plants and animals have, as organic beings, certain attributes in common; by other attributes they are distinguished according to their different offices in the household of Nature. But now, if all vital phenomena are reducible to so simple a form, that those distinguishing qualities more or less disappear, and essentially only those common to the two kingdoms remain, the differences between plant and animal must also disappear, and it is foolish to maintain a dispute which in its nature must be without result. Microscopic observation is so far advanced that, if there were criteria for the vegetable or the animal nature, they could certainly not escape the investigator, and the dispute would have ended long ago; that there are, in fact, no criteria mutually admitted by the two contending parties, is a proof that there is no distinct agreement as to the point of dispute itself. Were the facts accepted without prejudice, the inference could only be that one had hitherto narrowed too much the sphere of the qualities common to the two kingdoms, that there are far fewer differences between animal and plant than one had previously supposed, and that these differences became only in their extreme forms so striking that nobody can mistake them. Quite recently this way of looking at the matter has also gained ground in scientific circles, the strictest development of the same being the attempt of Häckel to set up a third kingdom of Protista before the vegetable and animal kingdom, although he may perhaps have extended its borders too far, and his criterion of nonsexual reproduction may turn out to be untenable, because the possession of sexual generation alike by animal and plant points to a *common origin, i.e.*, to its existence already in the realm of Protista. Altogether the attempt to give fixed definition to the naturally fluctuating boundaries between the Protist kingdom on the one hand, and the animal and vegetable kingdom on the other, must be just

as vain as the earlier endeavour in respect to the two latter kingdoms.

This mode of regarding the matter is also the only one which can be approved by geology. Whilst the terrestrial creation now subsists by the equilibrium of the productions of the animal and vegetable kingdom, manifestly the first foundation-stone of organic nature could only be laid by such beings as contained this equilibrium *in themselves*, and accordingly stood still at the point of indifference between animal and vegetable. One of the most important of these wonderful beings, to which the history of this earth appears to owe the whole chalk formation, has been dragged to light by recent explorations of the sea-depths, and been called Bathybius. In what way this slimy gelatinous net with interspersed protoplasmic nuclei filling up the sea-bottom, and secreting little heaps of microscopic calcareous shells (Coccoliths) is fed and thrives in the absence of every ray of light, is up to this time a riddle. Only from such an insignificant commencement could the development begin on different sides, in that marine animals arose, which lived on these undifferentiated Protista (Polyps, &c.), and as their counterpoise the first stages of decided vegetable structures became possible. The more the two kingdoms became peopled, the more were means of subsistence placed at the disposal of the higher animal classes, the more higher classes of vegetable could again exist on the living and dead products of these animals, and the evolution thus kept pace in the two kingdoms, as geology teaches, whilst within each kingdom the lower grades generally always preceded the higher. From this one should, however, draw the conclusion that vegetable kingdom and animal kingdom are not subordinate, but co-ordinate departments of creation, and that the animal kingdom, when it holds itself entitled to take rank above the vegetable kingdom in virtue of the higher development of consciousness, owes this power entirely to the pre-eminence of the latter in organic reference, since the latter forms for it the

materials, to the leisurely consumption of which it owes its own higher consciousness. If, now, the consumption of material, which is formed in foreign organisms, suffices to define the action of parasitism (for the dwelling of the parasite is indifferent, as, for example, the chamber-bug), the animal kingdom as a whole may be called a *parasite of the vegetable kingdom.* In this respect the animal kingdom resembles the great class of fungi, which, although, according to morphological analogies, hitherto reckoned to plants, yet can only be termed vegetable parasites. There are wanting to them, namely, the vegetable "philosopher's stone," the arcanum, by whose help the vegetable converts inorganic matter into organic *chlorophyll,* and they are therefore just as much as the animal kingdom consigned to the consumption of ready-formed organic matter.

This contrast of formation and consumption is now, however, not to be taken so strictly, as if the plant *merely* produced, the animal *merely* consumed, rather do we see in every animal also processes partly of the higher elaboration of received material (*e.g.*, the formation of cerebral fats), partly of the conversion of the same without relapse, partly of decomposition and recomposition in the course of the process of digestion and assimilation. On the other hand, we see in every plant a consumption here and there of the products, which it has itself formed at other places (we have only to think of the processes of retrogression in flowers, their inspiration of oxygen and excretion of carbonic acid). In yeast, fungi, and some other unicellular plants, we even find a remarkable ambiguity of such a kind, that they are able to take up, indeed, the nitrogen requisite for their organic production from ammonia, the carbon, however, only from higher ternary combinations. There can, accordingly, on both sides be a dispute only of a *more or less;* every animal is in part of vegetable, every plant, in part, of animal nature; where one side clearly dominates the other, we rightly term the whole according to that

side; but where both are in tolerable equipoise, a one-sided designation is difficult—nay, even inadmissible. We can now also find it no longer wonderful, if one and the same being exhibits for one part of its life an eminently vegetable, during another part an eminently animal nature. There is no greater metamorphosis at those stages near the point of indifference, than that of insects, frogs, or fishes. Certainly, whoever regards animals as animated organisms, but plants as merely empty soulless husks, such an one must be brought to despair by that fluctuation of the boundary of the two kingdoms, and the harmless passing over from the one to the other. We shall, however, see in these facts, in conjunction with the previous considerations of this chapter, only one more proof that plant and animal have much more in common than our age is accustomed to suppose.

As concerns the external general form, plants lose at lower stages their foliate type, and assume simply articulated, or rotundate, more or less enclosed forms (*e.g.*, Confervæ, Fungi). On the other hand one finds striking similarities with higher vegetable forms among the lower animals. "Some (coral animals) grow as leaves rolled one over another, like a cabbage-head, others consist of delicate, crisp, irregularly arranged leaflets. The surface of every leaf is covered by polyp-blossoms, by whose growth and secretion it has arisen. Not less may we detect resemblances with an oak or acanthus twig, with fungi, mosses, and lichens" (Dana in Schleiden's and Froriep's Not., 1847, June No. 48).

The chemical substances can certainly not establish a difference. Linnaeus thought we must regard several calcareous marine plants, such as corallines, as animals, just because he regarded the formation of chalk as a monopoly of the animal kingdom. Silicious coats of mail are found both in vegetable (Diatomáceæ) as in animal (Infusoria) organisms. The similarity of the vegetable and animal proteids is well known; the Fungi especially are rich in

animal-like compounds; in the mantle of the Ascidians and other salpae-like Tunicata is found ligneous fibre; chlorophyll (leaf-green) has been proved to exist in Turbellariæ (rotifers) and in Infusoria.

Often different species of a genus were reckoned partly to the vegetable kingdom, partly to the animal kingdom, *e.g.*, the species of *Alcyonium* are all in the main of so similar a nature, that Linnaeus certainly was not wrong in including them in one genus. Nevertheless, some of them are the not inaptly named *Animalia ambigua* (according to Pallas), which accordingly are very well ranked among the Amorphozoaria, *e.g.*, *Alcyonium cidaris* (Donati), *cydonium* (Leba), and *ficiforme* (Sotander, Ellis, and Marsigli). Others were generally reckoned to the vegetable world, thus, especially, *e.g.*, several specimens of the synonymous genus *Peziza*, so rich in species. In yet others not only the animal, but even the polyp nature is so decidedly evinced, that they have been separated from the Sponges and ranked among the Polypifera at the same time with the addition of a second generic name, so that *Lobularia digitata*, *palmata*, and *arborea*, from the Alcyonaria of the animal corals, are synonymous with *Alcyonium lobatum*, *palmatum*, and *arboreum*. The primæval species *Manon peziza* is compounded of an animal and a plant name. Here we find only phenomena from other departments of the animal kingdom again, where, *e.g.*, some rotifers are reckoned to the worms, others to the infusoria, a species *Cercaria* to the worms, other species of the same genus to the spermatozoids (?)

The small vesicles of which the red-colouring matter of snow consists (*Protococcus nivalis*), were regarded by Agardh, Decandolle, Hooker, Unger, Martin, Harvey, Ehrenberg, as Algae; the latter sowed them even on fresh snow and observed their propagation; the tiny young plants bore a finely-grained, lobed receptacle and rootlets, but no trace of animal character. Voigt and Meyen subsequently found, that the red-colouring matter pre-

sented rather the form and movement of infusoria, and Shuttleworth finally distinguished therein partly Algae, partly Infusoria. These contradictions are cleared up by Flotow's careful observations on a quite allied little plant or animal (*Hæmatococcus pluvialis*) living in rain-water. This showed at first merely a vegetable nature, was converted however in infusions under suitable circumstances by different intermediate steps clearly traceable, into an infusory animalcule (*Astasia pluvialis*) with proboscidiform, sometimes even furcate feelers and all the signs of independent movement. Shuttleworth's *Astasia nivalis* showed itself related in red snow. Kützing ("On the Metamorphosis of Infusoria into the lower forms of Algae, Nordhausen 1844") observed, that the infusorium *Chlamidomonas pulvisculus* changed many times, *e.g.*, into a decided species of Algae, *Stygeolconium stellare*, and into other formations of an algous character, which certainly in form partially resembled sedentary forms of infusoria (*Tetraspora lubrica* or *gelatinosa*, *Palmella botryoides*, species of *Protococcus* and *Gyges*). The same asserts the conversion of the infusorium *Enchelys pulvisculus* into a Protococcus and finally into an Oscillatoria. In a whole series of algae (*Zoospermae*) and yet other lower plants (Fungi, Star-jelly), the germinal granules, spores or sporidia have an infusorian-like form, and move by means of cilia or whip-shaped organs, and there are even certain forms among them, which Ehrenberg recognised as infusoria. An altogether similar state of things is observed in the embryos of many polyps and Medusæ, they too go through a period, in which by means of cilia they produce a simultaneous rotatory and progressive movement, before they settle themselves for further evolution, they have also the form of infusoria and no mouth. Unger ("The Plant in the Moment of becoming Animal") observed of the sporidia of a small Alga (*Vaucheria clavata*, or *Ectosperma clavata*), that, when liberated from the mother cell, they at first raise themselves in the water and revolve several

times in quick movement similar to an infusorium, that then moments of repose arbitrarily alternate with movement, and that they carefully avoid all obstacles in the most surprising manner, wind themselves extremely cleverly through the threads of the Vaucheria, and always avoid each other in such a way that two never collide.

The emission of mucilaginous filaments indistinctly formed and again coalescing, which is characteristic of many kinds of inferior animals, is also found in certain plants (*Myxomycetes*).—A small thread-like species of Algæ exhibits, as long as it actively vegetates, a threefold movement—an alternating slight curvature of the anterior filament, a half-pendulous, self-elastic, to-and-fro bending of the anterior half, and a gradual advance. "These movements have something strange, I might say uncanny, about them" (Schleiden, Grundzüge, ii. 549). The Oscillatoriæ and the Zoospores of several kinds of algæ (*e.g.*, *Vaucheria sessilis*) move just like polyps to the illuminated part of the vessel; other Zoospores (*e.g.*, of *Ulothrix speciosa*) flee from the same, yet others (those of the families of *Stephanosaura*) avoid both intense illumination and darkness, and collect at semi-dark places.—Pandorine, an Alga living in fresh-water pools, affords an example of the family of the Volvocineæ; it consists of sixteen pyramidal cells, which, with their bases turned outwards, form by their close attachment to one another an ovate collective body. Every cell has at its base a colourless spot on which rest several cilia, by means of which the organism swims about. From this mobility its animal nature was for a long time inferred, and Ehrenberg called the red pigment granule found beside each ciliated part, an eye.

We see that all the marks which have been set up on different sides as decisive do not hold, such as partial or total locomotion, spontaneous movement, morphological and chemical differences, mouth and stomach. As concerns the oral aperture, it is in the sea-blubber (*Rhizostoma Cuvieri*), a Medusa of the Mediterranean one to two

feet in diameter, replaced by numerous openings and canals in its eight arms; further, a mouth is entirely wanting in many intestinal worms, Cercariæ, infusoria, and embryos; the Gregarinæ, which are found in abundance as parasites in the digestive canals of insects and other animals, have not only no oral aperture, but also no cilia—no visible organs at all; they are simply cells with visible nuclei. To speak of a stomach where the mouth is wanting is without meaning, for then we may call the interior of every cell its stomach.

These statements may suffice to justify the previous general remarks.—What is now contributed by this examination to the solution of the question regarding the consciousness of plants is as follows:—We have seen that plant and animal have something distinct, somewhat in common, and that we may fairly well collect the total of the common characters, if in both kingdoms we descend so far down the scale of organisation, until we come to those structures where the differences disappear, and essentially only the common element remains. If we now find that in this common element sensation and consciousness is still included, that thus the lowest vegetable organisms possess sensation and consciousness, we shall look round for the material conditions to which here sensation and consciousness appear to be linked; and supposing these material conditions are fulfilled in higher plants in the same or still higher degree, we shall consider ourselves warranted in ascribing also to the higher plants a similar, but higher, measure of sensation and consciousness to that which we may suppose to exist in those lower ones. Since we do not directly know how the plant feels, but only how we ourselves feel, we descend the animal scale guided by analogy, turn round again at the indifference-point of animal and plant, which forms the connecting link between the two kingdoms, and likewise under the guidance of analogy ascend the scale of plants.

Further, we call to mind the result of the conclusion of

the first introductory chapter and of C. Chap. iii., according to which each sensation excited by material movement, as soon as it at all arises, also arises consciously, whilst if the material movement lies below the threshold of stimulation, not only no conscious, but altogether no sensation at all comes to pass. So far then as we can trace signs of a sensation excited by material stimuli, so far shall we also be obliged to regard sensation as conscious, and thus must allow the existence of a consciousness, no matter how barren its content may be.

We must here recur once more to the already frequently repelled prejudice (comp. A. Chap. vii. 1. a., vol. i. pp. 173, 174), according to which nerves are the *conditio sine qua non* of sensation. That on this globe, and up to this time, they are the form of matter most suited to the production of sensation is certainly not to be doubted. It by no means, however, follows from that that they are the sole form; on the contrary, a multitude of facts prove that other forms may be substituted for them. The tactile papillæ in the epidermis are found at several parts of the body at tolerably wide intervals (as the sizes of the ellipses prove, within which two contacts are felt as one). Nevertheless every spot of the skin is alike sensitive, even to thermal and chemical stimuli, where the mere propagation of mechanical pressure or conduction of heat is excluded. Burdach states that even nerveless parts of the human body may become sensitive as soon as, with increased blood-pressure and loosening of the tissue, their vitality is increased; so that, *e.g.*, the new flesh formed in healing wounds may be highly sensitive without any nerves, and an inflammation of the nerveless cartilage and kidneys may be even much more painful than an inflammation of the nerves themselves. Wundt shows (Beiträge, pp. 392–395) that these pains are always accompanied by specific organic sensations. Here certainly the pain of which the man is conscious is localised only in the brain, but the nerve-like function of those parts is

thereby proved, *i.e.*, their capacity to propagate currents of molecular vibrations which are similar to those in nerves. Where, however, forms of vibration exist similar to those of the nerves, they will also excite sensations which are similar to those excited by nerves, supposing that they do not lie beneath the threshold of stimulation. The latter is in no case to be assumed, since the part reaching the brain after so great a resistance causes still so many violent pains. Further, we have often seen the mind act on the body without nerves; *e.g.*, in the embryonic states before elaboration of the nerves, in the action of the nerves beyond their own limits in muscles, secreting glands, everywhere where the mass of the organs concerned must themselves undertake the last portion of the conduction, in the sudden turning grey of the hair after emotion, &c. But now, if the mind can act upon the body even without or beyond the nerves, yet in the thoroughgoing reciprocal action of the relation of body and mind, the body also, without or beyond the nerves, can act upon the mind, *i.e.*, evoke sensation.

Then it is almost certain that the lowest animals (polyps, infusoria, several intestinal worms) have no nerves, for nerves and muscles go everywhere hand in hand; and according to Dujardin and Ecker they have no muscles at all: in place of muscular fibrine and nerve matter, only the fibroine of Mulder is found in them. This substance comports itself pretty much as the neoplasm of wounds, and is therefore at the present time generally called protoplasm. It is becoming continually clearer that the proper support of life is in every cell its protoplasm, and that the protoplasm of the cells of the grey matter of the brain, mediating the highest functions of thought, is altogether not different in type, but only in degree, from the protoplasm of the lowest organisms. This nitrogenous, albuminous substance, called protoplasm, is thus the special substance in which the organic and motor acts of will of the animal mind operate in conformity with its ends;

in it alone can we therefore look for that constitution of organic matter, which is adapted and able to allow material effects to directly influence the mind.

Add to that the relatively high psychical manifestations of these animals; for the fresh-water polyp distinguishes, even at the distance of a few lines, a living infusorium, a vegetable, a dead and an inorganic object. Of all these he only draws to himself the first mentioned by a whirlpool created by his arms, whilst he does not trouble about the others; or if he by chance grasps one of them, he immediately lets it go again. The polyp must thus, indeed, have different perceptions of these different things, and these can only be given as sensations above the threshold, *i.e.*, as conscious sensations. Further, it moves out of the shadow towards the part of the vessel illuminated by the sun, and often two polyps struggle over their prey. The latter is only possible if the polyp possesses the consciousness that the other will deprive him of his booty. If, then, a nerveless animal displays such high manifestations of consciousness, we should not be surprised to find manifestations of consciousness at the next lower grade of the infusoria, and its many lower plants at the same level. This, however, one would hardly venture to maintain, that with the penultimate animal grade sensation and consciousness ceases; for why precisely at the penultimate, which yet exhibits so rich a content of consciousness that indefinitely many poorer stages can be imagined before complete disappearance, to which nothing in the world would correspond except just those infusoria and simple plants? In fact, however, a more exact observation of the lowest animal genera of all renders evident quite distinct perceptions, as follows from the appropriate use of the given (perceived) circumstances for the vital purposes of the animal. I need only mention the manifestly voluntary movements of *Arcella vulgaris* by means of appropriately developed air-bubbles (in vol. i. pp. 93–95).

What makes the protoplasm of nerves so well adapted

both for mediating the execution of acts of will and for the production of sensations is the semi-fluid consistency of the whole mass, which furthers the displacement and rotation of the molecules, and the polar nature of the individual molecule, which has a high degree of chemical organisation of matter for its condition. The former is equally well shown by the protoplasm of lower animals and plants. In every cell there is to be made out at least a fluid content and a solid wall, commonly also a nucleus; both the nucleus, or at any rate its environment, as well as the boundary of wall and content, frequently, however, the whole content of the cell, exhibit this semi-fluid consistency of high chemical organisation, from which physical and chemical elements one may conclude with probability to a polar constitution of the molecules, if also in a less degree than in nerves, and of the central ganglion cells, which likewise consist of nucleus, wall, and content, especially if one takes note of the phenomena of contraction of all animal and vegetable protoplasm after electrical stimulation. These conditions, however, recur in all properly living parts of higher plants, probably even in heightened forms, since the chemical organisation of matter manifestly increases in higher organisms, but in no case sinks. But quite specially vegetable protoplasm, which, as we have seen, brings to pass the quick reflex movements of the higher plants, shows apparently a perfect identity with the protoplasm of the Protista and lowest animals, as is proved by the same behaviour with respect to the most different stimuli and narcotics. This protoplasm has, however, also in *higher* animals a very wide distribution; and if attention was at first turned to its vital action by those examples, where its movements achieve results which become visible and startling even to the naked eye, at the present moment vegetable physiology already studies with zeal the movements of protoplasm going on *within* the *cells* on the irritation of light, heat, and other stimuli, which manifestly stand in the closest relation to the life

and propagation of the cells.[1] There is thus quite certainly no ground for the assertion that the sensation and the consciousness of higher plants stand *below* that of the lowest plants and animals; on the contrary, we may presume that, although the total and partial mobility of plants of higher forms decreases in conformity with their vital conditions, the sensations, at least in certain privileged parts, rank *above* that of the lower plants.

The lower we descend in the animal scale, the more does the importance of the sensations related to digestion and the genital region increase in comparison with those arising from outer stimuli. In plants where the surface is more and more secluded from the insignificant external stimuli, this augmentation will go still further. For the plant, the outer world, except light and the chemical constitution of the atmosphere, is continually losing all interest, and we only owe to special cases the knowledge that also higher plants take notice of certain events which obtain for them importance, *e.g.*, the plants which capture insects, of stimuli which affect the leaves, the climbers of supports, &c.

After the foregoing it will no longer surprise us if we attribute to plants a sensation (and of course conscious sensation) of the stimuli on which they, whether reflectorially or instinctively, react; if we assert that the

[1] As in lower animals (*e.g.*, Amœbæ), so also in the protoplasm of living vegetable cells, there are to be distinguished a state of activity and another of perfect rest, which may alternate with one another even several times. Although both states uniformly belong to *life*, yet only in the former does there appear to be present a distinct sensibility, whereas there is in the latter a lowering of irritability, which resembles the anæsthesia of protoplasm brought about by narcotic vapours, and perhaps forms an analogue of animal sleep, or still better of hibernation. As certain infusoria, after a period of active vitality, enter upon a period of incrustation, so also do many vegetable cells that at maturity surround themselves with a thicker cell-wall, which cell-wall may even remain after their death (*e.g.*, ligneous cells). The acme of sensibility in every vegetable cell one must therefore only seek in a particular, sometimes perhaps very short, epoch of their life, which forms the culminating point of their vital activity, and accordingly for the most part falls into their youthful period.

Oscillatoria as well as the polyp *feels* light if it wanders towards the illuminated part of its vessel, and that just in the same way the vine-leaf feels the light, to which it endeavours by all means to turn its right side, and every flower feels the light, to which it on expanding turns its tiny head. We maintain that the leaf of the *Dionœa* and of the *Mimosa pudica feels* the struggling of the insect before it reacts on this sensation by folding up; for it lies indeed in the notion of reflex action, as a psychical reaction, that a psychical perception must precede the same. This is, however, conscious sensation. We further maintain that the plant has a sensation of the physical events of the organisation which answer to animal digestion and of sexual life; that the latter especially takes place in parts where the higher vitality of vegetable existence is concentrated, where the plastic activity during flowering time effects no longer compounding, but decompounding chemical processes (as the inhaling of oxygen and exhaling of carbonic acid of the flowers proves); whence it follows that here the formative forces have withdrawn from material construction into a certain animal-like internalisation, and become disposable for more receptive processes. That the content of this consciousness must always be still very poor, much poorer, *e.g.*, than that of the wretchedest worm, hardly admits of doubt; for whence should wealth and definiteness come, such as is afforded the animals through the lowest sense-organs?

We have thus, in fact, found consciousness in the plant. But now how far can a UNITY of consciousness exist in the plant?—We have seen that the unity of the consciousness of two ideas or sensations depends on the possibility of comparison, and this on the presence of a sufficient communication between the two places producing sensation. The question then is this: Does such a communication exist in the plant? Already in the animal the converse between different nerve-centres, although mediated by nerve-cords, was exceedingly deficient

and the unity of consciousness in fact only extant for very energetic excitements. The velocity of propagation of the nerve-current in man, according to Helmholtz amounts to about a hundred feet in a second; that in the *Mimosa pudica*, as before mentioned, only to a few millimeters. One can draw from these velocities a tolerable conclusion as to the resistances to conduction, and accordingly to the disturbances and changes of the propagated results. It is possible that the spiral vessels serve such purposes of communication, but it is not proven. At all events, with regard to the unity of consciousness of two neighbouring anthers, the connection must be infinitely weaker than with that of brain and ganglia in man. A sufficiently faithful and strong conduction will always only be able to exist between the parts lying quite near to one another. I would not affirm that one is at liberty to speak of the indivisible consciousness of a flower,—hardly perhaps of that of a stamen. The plant does not, however, need such a unity of consciousness as the animal; it needs to institute no comparisons, and does not need to reflect on its actions. It needs only surrender itself to the single sensations, and let the same serve as motives for the incursions of the Unconscious. Then have these fulfilled their purpose; and this is accomplished just as well by sensations with separate consciousness as by those with one indivisible consciousness.

V.

MATTER AS WILL AND IDEA.

PHYSICAL science is concerned with three inter-connected objects: *laws, forces,* and *matter.* This division is entirely deserving of approval, for it summarily embraces different groups of phenomena under single points of view and facilitates expression. The question now is, whether these three are really of different nature; or whether, strictly speaking, they are only *one,* which, looked at merely from different points of view, *appears* in three different modes? Of the *laws* this may well be allowed without discussion, for it is obvious that they are not existences hovering in the air, but mere abstractions of forces and substances. Only because this force and this matter are so and so, only on that account do they *act* in a particular manner; and as often as we meet with such a force, we must find it acting in just such a way. This constancy of the *so-acting,* however, it is which we call Law. This relation is also pretty generally acknowledged, and we hear, in fact, materialists always speak of *force and matter* as their principia, as something which of course includes laws. We have in C. Chap. ii. defended Materialism, so far as it maintains organised matter to be the *conditio sine qua non* of conscious mental activity; we have in the preceding inquiries established an unconscious psychical principle as superior to matter, and thereby already shown the one-sidedness of that Materialism which knows no other than material principles. We have now arrived at the point where we must occupy ourselves with that,

which this one-sided Materialism sets up as exclusive principles of all existence, *i.e.*, as philosophical first principles, *force* and *matter*.[1]

I should consider it useless to enter here into a dialectical discussion of these conceptions; one would thereby neither be sure of actually treating of precisely the same notion as Materialism, nor would a materialist ever be induced to change his opinion by such a method. I hold the deepening of the natural scientific investigation of matter to be the only suitable course. It is true the future may yet bring inestimable light in this direction which we have not hitherto suspected, yet I believe that the outlines of the only possible mode of apprehending Matter are not only rendered so certain by the most recent results of physics and chemistry that no time will ever shake them, but that they offer also perfectly satisfactory resting-places for penetrating into the last depths of this mystery. If this

[1] As we shall see that force is only a pseudo-materialistic, but in fact a spiritualistic principle, the consequential Materialism, which, however, has been nowhere advocated in this form, should before all things deny force, *i.e.*, regard Motion as an ultimate, requiring no explanation, as an eternal and original quality of matter. The circumstance that many derivative forces (as magnetic attraction or repulsion between wires traversed by galvanic currents) are, in fact, only results of peculiar combinations of movement, might seduce us to go farther on this road, and to try, whether also the elementary forces of the general attraction of masses (gravitation) and of repulsion in ether could be explained as results of the forms of movement. For this purpose the ether is first of all denied, and a filling of space with very rarefied gases supposed; then repulsion is regarded as a result of heat-vibrations, and finally gravitation is sought to be explained either according to the analogy of the attraction of galvanic currents as a bye-product of transverse (heat or other) vibrations, or as a phenomenon resulting from the repulsion of peripheral strata. (In both cases, certainly, gravitation would not be proportional to the mass of a body, but to its plane of intersection at right angles to the direction of gravitation.) The whole theory is still too much in an embryonic condition to admit of criticism. Only this much stands firm, that *matter*, with all its contradictions, to be pointed out farther on, is here indispensable, since possibly force, but not motion itself, may be the mobile, and that accordingly this theory stops at *two* incomprehensible principles, matter and motion; whilst we get along with force *alone*, which is free from the contradictions of matter, and is itself again not an incomprehensible ultimate, but resolvable into the spiritual principles will and idea; thus in this manner closely joins the material world with the spiritual as consubstantial.

has not been the case hitherto, or at least not yet on the part of physical science, the reason simply is that physical science has at bottom always only so far an interest in hypotheses as the latter either afford it guidance to new experiments, or as they are indispensable for the application of the calculus: in what goes beyond that it sees no *practical* value, and therefore is indifferent to it. We shall thus have first to recapitulate what physical science knows of the constitution of matter, and the forces inhering therein, and then see whether these results are capable of being fathomed in a simple and unforced way.

If we imagine a chemically homogeneous body, *e.g.*, chalk, continuously divided, we arrive at parts of a certain size which cannot be further divided *if they are to remain chalk;* if we succeed in splitting them up, we get as separate portions one part carbonic acid and one part lime. These smallest parts of a body are called molecules.[1] These act in different directions with different force, because they have in general the crystalline ground-form of the particular chemical substance, or such an one from which this can be easily formed. The molecules of different substances are thus distinguished by different forms, also, moreover, by different weight (molecular weight); on the other hand, in their grouping into bodies in the gaseous state they fill equal spaces with equal temperature. If two bodies of different kinds come together, the forces of the molecules differently active in different directions, mutually disturb one another at the borders of both

[1] Not to be confused with atoms, as is done by the older physicists. Philosophical readers who come to this chapter with a certain prejudice against the physical atomic theory, I refer to Fechner's memoir "On the Physical and Philosophical Atomic Theory" (Leipzig, 1855), especially pp. 18-63 and 129-141, although since then the physical atomic theory has been very much further developed by the working out of the Theory of Heat. Comp., in reference to the present chapter, my essay, "Dynamism and Atomism (Kant, Ulrici, Fechner)," in the Ges. Phil. Ablandh., No. vii.—In this place only this much need be remarked by way of preliminary, that the splitting up into atoms in a metaphysical sense represents nothing else than the special form in which, in the department of matter, the general philosophical principle of *Individuation* obtains its realisation.

bodies in their conditions of equilibrium, which disturbances are presented as electrical excitement, or are propagated as galvanic vibrations; if the disturbance is sufficiently strong, a permanent rearrangement and chemical union of the different molecules into more compound molecules takes place. The various chemical compounds are distinguished by the number and position of the combining molecules. Those molecules which we have not as yet succeeded in decomposing we call chemically simple, although we know with tolerable certainty of several that they are compound (*e.g.*, iodine, bromine, chlorine are possibly combinations of oxygen, as the change of their spectra at very high temperatures appears to indicate; the metals perhaps are all combinations of hydrogen), so that possibly the number of chemical elements may be very much simplified. Moreover, modern chemistry distinguishes the elementary molecules according to their behaviour in chemical combinations into univalent and multivalent molecules, and conceives the latter as compounds of several equivalent parts, each of which is chemically equivalent to a univalent molecule. It calls these parts atoms, and their relative weights atomic weights. But already this difference of weight proves that even these chemical atoms can just as little be the ultimate elements of matter as the chemical molecules in their manifold morphological fundamental forms. The simple numerical relations of the atomic weights permit us to conclude that all these parts of matter are in the last resort only different dispositions of a varied number of homogeneous primitive elements or primitive atoms, as only in this way does the agreement of the atomic weights with the specific heat and that of the molecular weight with the specific weight of gases appear intelligible. These homogeneous primitive atoms, which I shall immediately call without ceremony atomic bodies, must act in all directions with *equal* force, and can thus, *if* they are to be conceived as material, only be imagined *spherical*.

Besides these body-atoms there are ether-atoms, which

are distributed both in every body between the corporeal molecules and also between the heavenly bodies, and which are perceived by their property of radiating heat. (A certain part of the thermal scale is, owing to the structure of our eyes, only perceived by us as light.) The ethereal atoms it is which, as environing envelopes of the corporeal molecules, produce electrical phenomena, and by revolution of the corporeal molecules (Ampère's molecular current) magnetic phenomena; further, it is these which, in the mutual rebound of the molecule of a gas, cause the elastic repulsion; in short, they are a hypothesis which is nowhere to be dispensed with when manifestations of energy are to be explained, in which, besides attraction according to the Newtonian law of gravitation, repellent forces also play a part.

Bodies and corporeal atoms attract one another, and that too in the inverse square of their distance; *i.e.*, the force of a corporeal atom, in all directions of space taken together, remains equal at all distances.

Ether and ethereal atoms repel one another, and that too in the inverse ratio of a higher than the second power of the distance, the third at least; *i.e.*, the force of an ethereal atom, in all directions of space taken together, increases at least inversely as the distance.[1] All body-atoms would converge to a point if the environing ether-atoms did not form, as it were, envelopes round every material molecule, preventing actual contact. Two ether-atoms can never collide, because their repulsion at infinitely small distances becomes infinitely great. Two body-atoms, however, could never separate again, supposing they once touched, because then their attraction would be infinitely great. Therefore the corporeal molecules must also be

[1] According to Briot (Lehrb. d. mechan. Wärmetheorie, p. 271), the doubtful power of the distance must be even higher than the fourth, if the transversal light-vibrations are to propagate themselves in the medium of the ether; and it follows from the laws of the propagation of light in doubly-refracting media, as from the absence of dispersion in empty space, that it is probably the sixth power of the distance to which the repulsion of the ethereal atoms is inversely proportional.

kept asunder within the chemical combinations by ether-atoms, because they can again be separated by ethereal vibrations (heat, electricity).

Body and ether atoms probably repel one another at molecular distances. It used to be assumed that they attracted one another at the ordinary molecular distances, and that this attraction was only converted into repulsion in the most immediate vicinity; this supposition is also still the common one in the elementary manuals. Up to a certain point, the phenomena are equally well explained by either of the hypotheses; but since, for the sake of calculation, a decision must be made in favour of one, attraction was *accidentally* chosen. Wiener has shown (comp. Poggendorff's "Amalen," vol. cxviii. p. 79, and Wiener, "Die Grundzüge der Weltordnung," first book) that the hypothesis of repulsion offers essential advantages for the explanation of the fluid state of aggregation, and that this generally agrees better with our other physical views. There is, according to this supposition, not as in Redtenbacher's "System of Dynamids," a thick envelope of ether-atoms about every material molecule, but, on the contrary, the ether is thinnest in the immediate neighbourhood of the corporeal molecules, accordingly thinner within the body than in empty space, because the densely packed corporeal molecules partially repel the ether. As we shall see later on that at all events attraction takes place at greater distances between body and ether atoms, the difference of the two opposed views in strictness only consists of a divergence in respect of the *magnitude* of that distance where attraction is converted into repulsion; and, moreover, according to *both* views, this distance must be so small that it must be designated molecular distance.

The atomic theory, in the present phase of its development, explains in a surprising way the laws of heat and the different states of aggregation induced by changes of heat (see Wiener, "Grundzüge der Weltordnung," first book; and for a more mathematical treatment, Ch. Briot,

"Lehrbuch der mechanischen Wärmetheorie"). It has the advantage of representing all the many so-called forces of matter, as gravitation, elasticity, heat, galvanism, chemistry, &c., as manifestations of molecular and atomic forces—*i.e.*, that one also actually sees and calculates the evolution of the one from the other,—whereas that Dynamism, which, like the Kantian, will know nothing of atoms and atomic forces, only merely asserts the origin of the higher material forces from attraction and repulsion, but cannot in the least say how it comes to pass.—

There still remains one material force to be mentioned, *vis inertiæ*, of which Atomism has hitherto wrongly denied that it comes under the conception of force, or which it has treated as an additional force, whereas it might have already learnt from Kant ("New System of Rest and Motion," comp. Kant's Werke, vol. v. pp. 282–284, 287–289, and 409–417) what *vis inertiæ* is, namely, that it *depends* simply and entirely *on the reciprocity or relativity of movement*, which had been previously clearly stated by Leibniz (Mathemat. Werke, vi. p. 252). To wit, if one imagines an atom alone in space, the notion of rest or motion cannot at all apply to the same, *because it has no definite place in space;* thus also cannot *change* this place. There is, accordingly, no absolute, but only relative, rest and motion. It follows from that, that one has no *more* right to say, A moves towards B, than B moves towards A; the ball moves towards the target, than the target moves towards the ball; that thus the resistance which the target opposes to the ball is not so much a resistance of the resting as of the moved target, or its *vis viva*. What here in the case of impact immediately strikes the eye takes place again in pushing and pulling, only as an integration of infinitely numerous single moments of repulsion or attraction of atoms and molecules. In both cases the resistance of the *vis inertiæ* to be overcome depends on the reciprocity of attraction and repulsion and the relativity of motion.

To explain Inertia we thus, in fact, need, notwithstanding that it itself acts as an opposing force, no *new* force; we can get along perfectly well with the attraction and repulsion of corporeal and ethereal atoms.—Let us now see how, on closer inspection, the principles previously adduced assume of themselves a simpler form.—

If we imagine two corporeal atoms, A and B, they would even then still move towards one another if *only* A possessed attractive power; for in that A attracts the atom B, it necessarily, on account of the relativity of motion, just as much moves towards B as it draws B towards itself. The same holds good, however, for B. Since now both A and also B possess attraction, each of them produces the mutual approximation, thus their actual attraction will be the sum of their individual forces. The same holds good for the repulsion of ether-atoms. But now curiously one and the same corporeal atom is said to possess two opposite forces, namely, energy of attraction for corporeal atoms, and repulsive force for ether-atoms. An ether-atom has thus either a corresponding *special* repulsive force for ether-atoms, and a *special* repulsive force for corporeal atoms; or, however, its repulsive force is equally great for corporeal and ether atoms, *i.e., one and the same.* The latter supposition has nothing against it; it will therefore, as the simpler, in any case deserve the preference, for *principia non sunt multiplicanda præter necessitatem.* According to the latter assumption, then, an ether-atom is similarly repellently related to *every other atom,* no matter what other forces may belong to this atom; *i.e.,* if a corporeal atom meets it, it repels this just as much as an ether-atom, no matter how great the force may be with which the corporeal atom repels the ether-atom, as compared with the repulsive force of an ether-atom. Of course the total *mutual* repulsion is the sum of the two forces. But if the magnitude of the repellent force of the corporeal atom is indifferent with regard to the repulsive force of the ether-atom, it must

also be indifferent to it if this force becomes $= 0$, or if it becomes *negative, i.e., attractive*, always supposing that the total repulsion of the two is the sum of the single forces. In the latter case the total result would remain repulsion, as long as the repulsive force of the ether-atom is greater than the attractive force of the corporeal atom; in the converse case it would be attraction. But herewith we at once get rid of the unnatural assumption of two mutually contradictory forces in this corporeal atom; for the repulsion between ethereal and corporeal atom remains as such for all small distances, when the repulsion of the former is stronger than the attraction of the latter, and the body-atom is similarly related to *every* other atom by attraction, just as the ether-atom is repellently related to *every* other atom in the same way. That, however, in fact, ethereal and corporeal atoms do *not* repel one another *at all*, but only at smaller, distances, seems to me evidently to result from the following: The *material* system is unconditionally to be regarded as *finite*, both from *à priori* considerations and on astronomical grounds.[1] The ether, however, must extend into the infinite, if there be no limit, where the attraction of all the corporeal atoms prevails over the repulsion of all the ether atoms; a rotation of the system about one or more axes (so far as such an one is at all conceivable under the supposition of the relativity of motion) would only strengthen the continual efflux of the ether-atoms by centrifugal force; and even on the inadmissible assumption of an infinite number of ether-atoms to a finite number of corporeal atoms, the constant efflux of ether-atoms in infinite space would induce a continuously increasing rarefaction of the ether in the world-system, for which there is nothing to be said.

Accordingly, if we are compelled by the finiteness of the material world-system to assume a definite *finite* distance,

[1] Comp. Zöllner, "Ueber die Natur der Kometen," 3 Aufl.

where the repulsion of the ether-atom from the corporeal atom is *equal* to the attraction of the corporeal atom to the ether-atom, we immediately get what we want, namely, that at less distances repulsion must *prevail* over attraction, since the repulsion of the ether-atom diminishes much more quickly with diminution of the distance than the attraction of the corporeal atom. However, then, one may regard the matter, in every respect the simplest assumption most recommends itself, that the corporeal atom has *only* attractive force, the ether-atom *only* force of repulsion, which is *uniformly* manifested towards both kinds of atoms. At a particular distance (which manifestly must be determined by the magnitude of the intended world) they are equal to one another; the different law of their change with the distance causes at greater distances attraction, at lesser repulsion increasingly to predominate. At the distances at which they exist between the molecules of a body, repulsion probably *immensely* preponderates. This is, however, also necessary if, according to the assumption of Wiener, the ether-atoms are distributed within the body *far more sparsely* than in empty space, and nevertheless must suffice to hold in *equilibrium* the mutual attraction of the so thickly packed corporeal molecules.

Since, if one steers clear of the contradiction of an already existing, *i.e.*, *completed infinity*, the number of the ether-atoms, as that of the corporeal atoms, must be *finite*, we have no ground at all to assume that the number of both is different; we may, on the contrary, rather hold them to be equal, since what the ether-atoms seem to gain in greater distribution through space the corporeal atoms acquire in density of cohesion. We have then *for every body-atom an ether-atom*, which are distinguished, apart from the law of their change of force with distance, only by the positive and negative direction of their forces. If one conceived every corporeal atom and every ethereal atom fused together, all force would suddenly disappear

from the world, for their antagonism would have been *neutralised.* Thus we see here the sundering into a *polar dualism* to be the principle which produces the material world.

Let us further inquire what we are to understand by the *mass* of a *body.* We chiefly measure mass by *weight.* As soon, however, as science reached the assumption of the ether, which, because it has no attraction, can also have no weight, it was necessary to take something else instead of weight as the measure of mass, and, moreover, somewhat that is *common* to ether and body; as such, only *vis inertiæ* is offered. But now, even if we can thus *measure* mass, we still get no *notion* of mass unless we are content to grasp it as *the unknown substratum of equal persistent forces.* But assuredly no one is really satisfied with this. Physical science explains mass to be *the product of volume and density,* and this certainly leads to the mode in which all unprejudiced thinking conceives the notion of mass, provided that, in the explanation of density, one avoids the circle and does not again employ the notion of mass. Then is density only to be apprehended as the *keeping asunder of equivalent particles.* If, now, the product of volume and density remain unchanged, it is clear that this is only possible by the number of equivalent particles remaining unchanged. We may then define *mass* absolutely as the *number of equivalent particles,* supposing that in all things to be compared we continue the division until we everywhere come to equivalent particles. It is immediately evident that only the original atoms answer this requirement; but this they really do: even the ethereal and corporeal atoms are to be regarded as equivalent, since each ether-atom just as much repels each body-atom as each ether-atom, and inversely; consequently the reciprocity of their forces, *i.e.,* their *vis inertiæ,* is equal. We have, then, now to define the mass of a thing as the *number of its atoms,* and herewith furnish the only possible strictly scientific expression for that

which each one more or less clearly conceives by the word *mass*. It follows, however, directly from this, that there is no longer any sense in talking of the mass of an atom, for one would then have to imagine the same again decomposed into equivalent parts, and thereby would get no farther than one already is. One may possibly speak of the mass of a *molecule*, for this just consists of atoms; one may also say, by way of comparison, a corporeal molecule is of very much greater mass than an ether-atom; but the masses of two atoms cannot be compared, for each of them is the mass-unit. Further, it would be conceivable that, without interposed ether-atoms, *n* body-atoms should unite into a single one, so as to become inseparable; then an ether-atom would repel each of these united atoms with a single, the compound with *n*-fold force, and the compound would certainly have the mass *n*; but just on that account would it be erroneous to call it One atom with *n*-fold mass; there always remains, so long as the atoms are conceived as material, impenetrable balls, a complex of *n* atoms.—For the rest, we have no occasion at all to believe in the real existence of such direct fusions of body-atoms, for it is to be assumed that the body-atoms in the molecule of a so-called chemical element are just as much kept asunder by ether-atoms as the molecules of the chemical elements in the molecule of their chemical compound, which last is proved by this, that they may be again separated by ether-vibrations (heat, galvanism, &c.) With respect to the great differences of the atomic weights, we must also imagine the number of the body-atoms united in an elementary molecule to be *very great*, in conformity with the fact that often hundreds of elementary molecules are united in the molecule of a higher organic combination.

The result of all this is, that the atom is the *unit* of which every mass is composed, just as all numbers are compounds of One; that it is therefore just as sensible to ask what is the mass of an atom as what is the number of unity.—

We come now to the last and most difficult question: Is the atom anything else but force? has the atom *substance*, and what are we to understand by this term?—Let us recall the way in which we arrived at the atom. As children, we knock our heads and feel pain; we touch things, and get visual and other impressions from them. For these instinctively localised projected perceptions we just as instinctively suppose causes which we call things. We suppose things outside us which act upon us, but especially that *against which we push outside* we call *matter* or *substance*. Science does not stop at this crude, instinctively sensuous, and practically sufficing hypothesis, but pursues the causes of our perceptions *farther*, and examines them more carefully. It shows us that visual perceptions are excited by ethereal vibrations, auditory perceptions by aerial vibrations, olfactory and gustatory perceptions by chemical vibrations in our sense-organs; that thus all these perceptions by no means concern a matter, but a motion, for whose explanation it must again suppose *forces*, which in the last resort turn out to be *manifestations* of combined molecular and atomic forces. It shows us further that the foundation of all our tactile perceptions, the so-called *impenetrability* of matter, or the resistance which it opposes to foreign bodies in attempting to approach beyond certain limits, may be the *result of the repulsion of the ether-atoms*, which at infinitely small distances become infinitely greater than the attractive force of the corporeal atoms; that, however, a direct *contact* of the atoms, therefore an impenetrability, not as consequence of force, but inhering in matter as such, nowhere occurs at all. All the explanations which physical science gives or attempts to give rest on *forces;* substance or matter remains thereby, at the most, a spectre idly lurking in the background, which, however, is always only able to assert itself at *obscure* places, where the light of knowledge has not yet penetrated; the further knowledge, *i.e.*, the explanation of phenomena, spreads

its light, the more in the course of history does matter, which in the *naïve* sensuous intuition still occupies the whole outer space of perception, withdraw into the background.

Never, however, as far as physical science reaches, or will reach, can it require anything else than forces for its explanation. On the contrary, where, at the present day, it wants the word *substance*, it understands thereby, as by *matter*, only a system of atomic forces, a dynamic system, and only employs the words *substance* and *matter* as indispensable summary signs or formulæ for these systems of forces.

As, now, scientific hypothesis should never extend farther than the need of explanation requires, but the concept Matter serves and can serve no scientific need of explanation, it follows from this that a concept Matter which means anything else than a system of forces has no warrant and no place in physical science, since it has indeed itself proved all that which sensuous apprehension calls effects of matter to be effects of forces.

Undoubtedly nothing is more difficult than to free ourselves from the immediate ideas of sense, which we have imbibed, as it were, with our mother's milk, which have been instinctively laid hold of as first crude but practically sufficient hypotheses, and which by the habit of a lifetime have become a part of ourselves. There is need of industry, tranquillity, clearness, and force of thought to perceive the prejudices of sense and other prejudices of thought as such; still more courage does it require to break for good and all with that which has been once surmounted in *all its consequences;* but even when one has done all this, there is still required an almost superhuman energy of intelligence and character never again to be prejudiced, or at least secretly influenced, by what has been absolutely discredited; for there is no task more difficult than this, to conquer for ourselves only a full, negative freedom of thought. Precisely because the prejudices springing from

sense are not conscious conclusions of the understanding, but instinctive, practically sufficing suggestions, are they so difficult to be destroyed and set aside by conscious thought. One may say to oneself a thousand times that the moon at the horizon has the same angular magnitude, has the same apparent size, as high up in the sky; that it is an error of the understanding to hold it to look smaller up in the sky than down at the level—the same error which does not allow the vault of heaven to appear as hemisphere, but as flattened spheroid—all that cannot bring a single individual to see the moon in both cases as of equal magnitude, just because, in spite of better conscious knowledge, the instinctive assumption asserts itself.

Such an instinctive prejudice springing from sensibility is Matter. No natural philosopher has, in his science, anything to do with matter, except in so far as he decomposes it into forces, whereby accordingly the apparent material effects turn out energies, *i.e.*, matter is more and more resolved into force. Thus, even at the present day, few natural philosophers will be found who would grant the final consequence of their own science, that matter is nothing but a system of forces; and the reason of this lies simply in sensuous prejudice. One forgets that we indeed just as little directly perceive matter as atoms, but only its pressure, impact, vibrations, &c.; that this matter is indeed also merely a hypothesis, which must justify itself before the tribunal of physical science; but this justification is not merely never forthcoming, but instead of it after every inquiry instituted in any quarter whatsoever evaporates into forces. This is forgotten because one accidentally knocks one's elbow, and instinctive sensibility shrieks at once "Matter" into the reasoning.—If, now, we seriously attack such a prejudice, it tries to maintain itself with sophisms; the natural philosopher forgets the rules of his method, and even advances *à priori* reasons in order only to save his favourite prejudice.

But then we hear it exclaimed, "I cannot imagine force

without matter; force must have a *substratum* by which, and an object on which, it acts, and just this is matter; force without matter is a non-thing."—Let us also consider the *à priori* side of the speculation, after having perceived that on the empirical side the hypothesis of a substance has no warrant.

In the first place, it may be asserted that man is so organised that he may think everything which is not self-contradictory, *i.e.*, that he may unite all conceptions given in words, provided that the meaning of the conceptions is clearly and precisely given to him, and the required combination contains no contradiction. The above assertion says: "Force cannot be imagined in independent real existence, but only in indissoluble union with matter." Force is a clear conception, independent real existence likewise; accordingly every sound understanding must be able to unite the two notions, unless this combination contains an inherent contradiction. To prove the latter would doubtless be difficult, consequently the first part of the negative assertion is false. Properly understood, the only question is: Is the combination thinkable? not whether it really exists; otherwise the speculation would be no longer *à priori*.—The second positive part of the proposition asserts "that force is to be conceived in union with matter." This part is just as false; one cannot think the union of force and matter, because one cannot think matter, for all conception is wanting to this word. Let us go through the different meanings which might possibly be ascribed to the word. The sensuous meaning is, it is true, quite definite: cause of felt resistance; but it is resolved into repulsive atomic forces, and can thus not be opposed to the notion Force. The notion Mass, which, in a perverse fashion, might be subsumed under the notion matter, has further above been decomposed into atomic force; of it, accordingly, the like holds good; its confusion with matter is, besides, only possible in respect of the crude sensuous meaning of matter by means of the notion of density.

The physical notion of impenetrability has likewise been resolved into the infinitely great repulsive power of the ether-atoms at infinitely little distances; and, moreover, only appertains to the repulsive ether-atoms and to bodies, *i.e.*, systems of dynamids, in virtue of the ether-atoms contained therein, *but not* to the attractive corporeal atoms, since it would not be apparent why, in fact, a perfect interpenetration and blending should not take place between two body-atoms which are not sundered by ether-atoms.

Finally, there still remains the meaning, "*substratum of force;*" however, I must confess, to my misfortune, that I am just as little able to think anything by substratum as by matter. Schelling says ("System of Transcend. Idealism," pp. 317, 318; Werke, i. 3, pp. 529, 530): "Whoever says that he cannot imagine action without substratum, just confesses thereby that that putative substratum of thought is itself a mere product of his imagination; thus again is only his own thought, which he in this way is compelled to presuppose as independent *ad infinitum.* It is a mere illusion of the imagination that after one has taken away from an object the only predicates which it has, still something, one knows not what, remains of it. Thus, *e.g.*, nobody will say impenetrability is implanted in matter, for impenetrability is matter itself" (which certainly is only half the truth). Substratum sometimes means the same thing as subject; one will, however, still not maintain that dead matter is something more subjective than force. Sometimes substratum means "the underlying," *i.e.*, a *causal* moment; of which there can be no question here. Usually it signifies *prop*, plainly in a sensuous meaning of the word; the crude sensuous idea must, however, here be excluded, and so our list ends. In short, we can think here nothing at all by substratum. But even if this were possible, the defenders of matter would always still owe the proof of the validity of their hypothesis of a substratum of force; for I cannot see

the need of still supposing something *behind* force, as I maintain that one can quite well think force to be independently existing. It still remains: Matter is for science an empty word, for one can name no single quality which shall appertain to the notion thereby designated; it is simply an insignificant word, unless we are contented with the notion of a "system of forces," for which we would rather put "matter." Accordingly, it is settled that those who assert they cannot think force as independent can assuredly not think it in combination with matter.

Further, it is asserted, "Force must have an object to act upon, otherwise it cannot act." This is unconditionally allowed; it is only disputed that this object must be matter. "The force of any atom has other atoms for its object;" that is all the physical scientific hypothesis requires; what that is in the atoms which serves as object, about that physical science does not trouble itself at all. *We*, however, have to show that we as yet know in the atom *only force*; that nothing stands in the way of regarding force as that in the atom which serves as object to the force of the other atom; that thus for this reason all occasion is wanting for setting up the new hypothesis of matter. In addition to this, there is still the analogy of the mental forces, which likewise have one another for objects, *e.g.*, the idea acting as motive has the will as object, the will again has the idea as object, and so on. The pure reciprocity in the relation of atomic forces to one another should serve as a warning against the assumption of another object than force itself.

But now, let us really assume for one moment that the atoms consisted, beside force, also of matter, and consider what difficulties thereby arise for this idea in the mutual action of two atoms, A and B, and how the one unauthorised and superfluous assumption must always be supported by new and just as arbitrary ones. The force of A is to act upon the matter of B and *vice versa*, thereby the matter of A and B approach one another, whilst the forces

stand out of all relation to one another, the converse of which one indeed would expect, since it is force which acts at a distance, but not matter, since force and force are of homogeneous, force and matter, however, of heterogeneous nature. The matter of A and B then approach in consequence of the momentary attraction of the mutual forces. What follows from this? Manifestly that the force and matter of every atom must be separated, for matter is caused by the foreign force to change its place, but not force. If, now, still the force and matter of every atom remain together, and nevertheless force cannot be necessitated by the force of the foreign atom directly to a change of place, it follows with logical necessity that the force of A must be compelled by the matter of A to change its place. Therewith, however, acting, consequently activity is ascribed to matter, whereas it is in general absolute passivity which must be represented in opposition to the activity of force. The mode and manner of this action is, however, perfectly incomprehensible, for if matter becomes *actively acting* it becomes indeed again force. Instead, then, of force A, as would be natural, attracting force B, it moves the matter of B, and the matter of B moves the force of B.

How force is to be "bound" to matter, which is the favourite expression of the partisans of matter, I must confess I cannot at all imagine. It would also be difficult for them to answer the following: Is one to imagine force bound to the centre of the material atom, or uniformly distributed over the whole matter of the same? For a material atom must surely have a certain size!

The former assumption certainly evades the difficulties connected with the other, but then force is no longer strictly bound to matter, but to a mathematical point, which yet cannot possibly be material, and which only accidentally coincides with the centre of a material ball. Then the action of matter on the movement of force is not at all comprehensible; rather the material ball is a fifth

wheel in the waggon, since only the point, the ideal centre of the same, is in question. On the second assumption the difficulties are, however, far greater, for then indeed from *every point* of the material atom acts a *part* of the force, and each of these points has another distance from the atom which is acted upon. There is then the resultant to be taken of all these partial forces, whose point of attack now on action at finite distances by no means falls upon the centre of the material atomic sphere, but becomes different according to each direction of action. In this speculation, however, one must manifestly imagine the atom decomposed into an infinite number of parts, each of which is burdened with an infinitesimal part of the force. Let one think such an atomic particle as small as one will, it is still always matter, and still no mathematical point; thus the union of the same with force can yet again only be comprehended by imagining the force uniformly distributed within the same. We are thus again constrained to infinite division, and so on, *i.e.*, the material atom must be divided infinitely an infinite number of times, and in spite of it all it can never be comprehended how the force is distributed to matter, since one can absolutely only imagine the manifestation of simple force referred to the mathematical point, and this again is no longer material. (This the most considerable physicists and mathematicians, as Ampère, Cauchy, W. Weber, &c., have recognised, and therefore admitted that the atoms must be conceived as absolutely without extension.)

Let us, on the other hand, consider how the case stands without matter. We have nothing else to do but to retain the idea of atomic force, which the defenders of matter also possess, that it is the final unknown cause of motion, whose paths prolonged backwards cut one another in a mathematical point. Even he who assumes the atomic force to be equally distributed over the whole matter of the atom can, as said, not get rid of this mode of viewing the matter, for he must apprehend the total force of

the atom as resultant of an infinite mass of punctual forces within the atom, however contradictory this requirement may be.

Further, the defenders of matter also assume the possibility of a relative change of place of this point, in which the directions of the manifestations of force intersect. We leave, provisionally, the question undiscussed whether force as such, apart from its manifestations, is something to which one may attribute spatiality or a place in space; if it has a place, it is in any case this point of intersection, and we will therefore provisionally call it the *seat* of force. Further, we assume that the atomic forces mutually serve as objects, *i.e.*, that the mutual attraction of A and B produces local change at the seat of the forces in the sense of the latter approaching one another and separating on repulsion. I do not see where difficulties could be found here. According to the assumption of science, forces act at a distance and are homogeneous; why should they not act *upon one another*, if one indeed has hitherto granted an action of force on the matter heterogeneous to it and an action of dead matter on the force heterogeneous to it? We only need assumptions which were already there, strip away from these several as superfluous and unauthorised, and arrive notwithstanding not only just as well, but much more simply and more plausibly, at the goal, and avoid all the difficulties which appeared in the train of those useless assumptions. If we reckon, in addition, that those assumptions rest on an *empty word without any thought*, the gain proceeding from the simplification of the principles cannot be rated lightly.

There is, besides this, the crucial test, that our present rendering of Matter reconciles the two previously distinct parties of atomists and dynamists, since it has arisen from the conversion of Atomism into Dynamism, retains unimpaired all previous advantages of Atomism, which have assured it its exclusive authority in current physical science, purifies it of all the warranted reproaches of the dynamists,

and gives birth to the fundamental principle of Dynamism, the denial of matter in a new, and more thorough fashion. We may therefore rightly call this conception *Atomistic Dynamism.* Dynamism in its previous form, apart from the want of an empirical proof, could never be accepted by physical science, because its formlessness made all calculation impossible. If forces are to act locally, they must determine their effects in space, and thus refer the same to definite starting-points. With this the point is directly given as starting-point of material force, wherefore Dynamism also, as soon as it tried to assume a more definite shape, was necessarily converted into Atomism, for it only then gained for the first time a tangible form, when it referred the play of opposite forces to *force-individuals, i.e.*, atoms. This point of view was advocated by Leibniz in a tolerably pronounced fashion:—"Il n'y a que les *points métaphysiques,* ou de substance, qui soient exactes et réels.—Il n'y a que les atomes de substance, c'est à dire, les unités réelles et absolument déstituées de parties, qui soient *les sources des actions* et les premiers principes absolus de la composition de choses, et comme les derniers élémens de l'analyse des substances." ("Système Nouveau de la Nature," No. 11.)—Leibniz altogether comprehends "substance" only as force, and force is to him the only and genuine substance. Comp. *De Primæ Philosophiæ Emendatione et de Notione Substantiæ.* That he does this, and with the notion of force *implicitly* insinuates the notion of the Will into substance, is his main philosophical advance beyond Spinoza. Undoubtedly physical science was then too much behindhand for him to put himself into active alliance with it. Schelling would have succeeded far better, who very decidely confesses to a dynamic Atomism; but on principle deduces his assertions *a priori,* wherefore also his mode of looking at the matter has not been able to obtain any influence over physical science. He says (Works, i. 3, p. 23):—

"What is indivisible cannot be matter, and, conversely,

it must then lie beyond matter; but beyond matter is *pure intensity*, and this notion of pure intensity is expressed by the conception of action."—(P. 22): "The original actions, however, are not themselves space, they cannot be regarded as part of matter. Our assertion may accordingly be called principle of Dynamic Atomism. For every original action is for us, just as the Atom for the corpuscular philosophers, truly *individual ;* each is in itself whole and self-enclosed, and represents, as it were, a natural monad." (P. 24): "In space, however, only its effect is representable; action itself is earlier than space, *extensione prior.*"—

If thus, on the one hand, Dynamism, even when it attained atomistic individualisation of force, was not able to prove itself to be something empirically authorised, on the other hand, at no time could Atomism defend itself against the reproach of logical contradiction, which was always brought against its *material atoms.* If, notwithstanding, physical science has inclined to it with ever-increasing confidence, this certainly proves a strong inner compulsion, with which, in spite of the acknowledged contradiction, the force of facts ever and again urged the natural philosophers to the atomistic explanation. Atomistic Dynamism satisfies all requirements by uniting the positive principles of both sides in itself.

If we once more briefly recapitulate these principles, they run thus: There are as many positive as negative, *i.e.*, attractive and repulsive, forces. The directions of action of every force intersect in a mathematical point, which we call the seat of force. This seat of force is movable. Every force acts upon every other in the same way, no matter how it be designated. Positive force is called body-atom; negative, ether-atom. At a certain (molecular) distance the repulsion of an ether-atom and the attraction of a body-atom are equal to one another; but as the law of their change varies with their distance, between ether and corporeal atoms at lesser distances

there prevails repulsion, at greater distances attraction. Corporeal atoms with interposed ether-atoms keeping them asunder unite to form the molecules of the chemical elements; these in the same way the molecules of the chemically compound bodies; these the material bodies themselves. Matter is thus a system of atomistic forces in a certain state of equilibrium. From these atomic forces in the most different combinations and reactions arise all the so-called forces of matter, as gravitation, weight, expansion, elasticity, crystallisation, electricity, galvanism, magnetism, chemical affinity, heat, light, &c.; nowhere, as long as we confine ourselves to the inorganic sphere, do we need to call to our aid any other than atomic forces.

We have accordingly seen that of the two materialistic principles, force and matter, the latter dissolves and disappears beneath our hands into the former; and now we know exactly what we have to understand by force, namely, an attracting or repelling, positively or negatively acting *point of force.* Now the notion of force is made so precise that we are able directly to consider the same, without in our investigation having any cause to fear that we apprehend it otherwise than physical science and Materialism intends. Let us see what this conception involves.

The attracting atomic force strives to bring every other atom nearer to it; the result of this endeavour is the completion or realisation of the approach. We have thus in Force to distinguish the *effort itself* as pure act, and that which is aimed at as the goal, content, or object of the endeavour. The endeavour lies *before* the execution; so far as the execution *is already posited,* so far is the effort *realised, is* therefore no more; only the *yet to be realised,* that is, *not yet* realised effort *is.* Consequently, the resulting movement cannot be contained in the effort as reality, since their times are separate. Were this, however, *not at all* contained in the endeavour, there would be no reason why the latter should produce attraction, and not

something else, *e.g.*, repulsion; why it varies according to this and not according to that law with the distance. It would then be empty, purely formal endeavour, without definite goal or content; it must thus remain aimless and without content, and accordingly resultless, which contradicts experience. Experience rather shows that an atom does not accidentally now attract, now repel, but remains perfectly consistent and always equal to itself in the aim of its endeavour. Nothing more is wanting, then, than that the effort of the attractive force contain in itself the approximation and the law of change according to distance, *i.e.*, the whole variable determination of its mode of action; and yet not contain in itself their reality.

Since the striving or the force of the atom is the primitive element constituting matter, and as such in itself simple and immaterial, there can here then be no more talk of material predispositions; the above requirements must be combined in an immaterial way. This is only possible if the striving possesses all the uniformly variable definiteness of its mode of manifestation as an appearance resembling reality—as *image*, as it were; *i.e.*, however, if it possesses the same *ideally* or as *presentation*. Only if in the striving of the atomic force the "what" of the endeavour be ideally prefigured, only then is a determination of the endeavour at all given; only then is a *result* of the endeavour, only then that consequence possible which in the same force-individual always retains the same positive or negative goal of endeavour, but still acts on a second atom from this particular distance with this particular strength, on a third from that distance in that strength. Without itself changing, the atomic force changes the extent of its action according to circumstances, and that too with *logical* uniformity (mechanics = applied mathematics, mathematics = applied logic). This necessitation by circumstances leaves its activity, its spontaneity untouched, and requires therefore, neverthe-

less, the direct procession of action from *inner* determination; thus requires ideality as *prius* of reality, and causes the necessitation to be perceived as a logical necessitation (from the logical determinateness of the Idea).

But now, what then is the striving of *force* other than *will*, that endeavour whose content or object forms the unconscious idea of what is aimed at? Let one only compare A. Chap. iv. Vol. I. pp. 117–112; what we have here derived from force we have there derived from will. That the will is in its nature and immediately regarded eternally unconscious we have shown, C. Chap. iii. pp. 96–104; that it here also must be mediately unconscious, since its content is an unconscious idea, is matter of course. Not violently have we so far extended the notion of the will as to include in it that of force; but in that we proceeded from the will of the cerebral consciousness, acknowledged as such, has this notion of itself broken through the limits drawn for it by consciousness in an authorised manner (vol. i. pp. 69–71), and evinced itself gradually as the efficient principle in *all* activities of the animal and vegetable kingdom. Now we see, to our astonishment, that if we would think anything under the notion of a (no longer derived, but independent) force, it can only be what we have thought in the case of will; that thus both conceptions would be *identical* if force were not by *conventional* limitation of its content narrower, and, moreover, were used quite especially for *derived* forces, *i.e.*, for particular combinations and manifestations of atomic forces, *e.g.*, elasticity, magnetism, muscular force, &c. To replace the notion Will by the notion Force, or at all to subsume it under the latter, would therefore be bad, because force is properly derivative, only in the special scientific sense original; will, on the other hand, *always* original; and because force, in the ordinary acceptation, and in the view of common sense, is a much more incomprehensible conception than will; one is also accustomed by the crude sensuous mode of appre-

hension to think something especially material by "force," since the notion is only carried over from the feeling of muscular energy to other external objects. So much more inward as is the will than the feeling of muscular energy, so much more significant is the word Will to express the essential truth than the word Force. (Comp. Schopenhauer, "Welt als Wille und Vorstellung § 22, and Wallace, 'Contributions to the Theory of Natural Selection.'" Wallace declares himself just as decidedly against the retention of matter along with force as for the volitional nature of all force, and herewith of the whole universe.)

The manifestations of the atomic forces are thus individual acts of will, whose content consists in the unconscious representation of what is to be performed. *Thus matter is in fact resolved into Will and Idea.* Herewith is the radical distinction between spirit and matter abolished; their difference consists only in higher or lower forms of manifestation of the same essence, the eternally Unconscious, but their identity is perceived in this, that the Unconscious manifests itself equally in mind and matter as the intuitively—logical Ideal, and dynamically realises the conceived ideal anticipation of the actual. The identity of mind and matter herewith ceases to be an uncomprehended and unproved postulate, or a product of mystical conception, by being elevated to scientific cognition, and that, too, not by killing the spirit, but by vivifying matter. There were only two standpoints hitherto which actually avoided this dualism, but both could only do this by boldly denying the truth of one side. Materialism denied spirit; Idealism, matter. The former regarded mind as unsubstantial appearance, resulting from certain constellations of material functions; the latter regarded matter as unsubstantial appearance, resulting from the peculiarity of subjective conscious psychical function. The one is as one-sided and untrue as the other, and the unconquered strict dualism of co-ordinate

spirit and matter to be preferred to both. Not merely to evade this dualism by the denial of one aspect, but really to overcome and absorb it, is only in the power of a philosophy which sees in the subjective conscious mind, as in matter, only phenomena of one and the same principle in the subjective or objective sphere respectively —a principle which is higher than both, and at the same time less differentiated than either; in a word, a philosophy of the Unconscious (whether Hegel's Unconscious Idea, or Schopenhauer's Unconscious Will, or the substantial unity of both in Schelling's Eternally Unconscious).

Let us now consider how the atomic will is related to space. Without in any way needing to enter upon the question concerning the essence of space, we may say this much: Space may have a twofold existence, one real in bodies or bounded voids, and one ideal in the mental representation of bodies and bounded voids. If the *ideal* space is in the *representation*, the representing cannot be *in the* ideal space which it first creates; if cerebral vibrations constrain the Unconscious to a reaction with conscious perception, this perception has nothing to do with the place of the vibrating spot in the brain, or the place of this perceiving man upon the earth; the idea is thus also not in the *real* space. Will is the *translation of the ideal into the real;* it adds to the ideal its content, that which bare thinking cannot give it, by *realising* it. Whilst this its content, which is always an idea, also contains ideal-spatial determinations, the will at the same time also realises these spatial determinations, and this also puts space out of the ideal into the real, posits thus the real space. (How space arises in the ideal does not here concern us; enough that it is the will that posits real space.) That which is only created by the will cannot be present before completed willing; the will as such cannot then be real-spatial. With ideal space, however, the will has nothing at all to do. For it exists merely in the idea, *i.e.*, in the mental representation. In short, *Will and*

Idea are both of non-spatial nature, since it is the idea which first creates the ideal space, the will by realisation of the idea the real space. It follows from this that also the atomic will or the atomic force can be *nothing spatial*, because it, as Schelling says, is *extensione prior.*

To common apprehension this may for the moment appear strange, but the strangeness immediately disappears if we compare it with the spatial effects of the will in organisms. The will moves in me certain nervous molecules in such a manner that by transmission of the current and employment of the polar forces in nerves and muscles my arm lifts a hundredweight. The will has thus directly produced certain spatial changes of position, which we, it is true, do not more exactly know, but of which we can say this much, that their movements of direction by no means meet in a common point of section, but probably consist of revolutions of a certain number of molecules about their axes. Movement ensues just in this manner because the unconscious idea, which forms the content of the will, ideally contains just this kind of movement. Did this representation, on the other hand, ideally contain such movements or intersect in a common point, the will would also realise such movements, and this it does in the atomic will. One sees, then, that this common point of section of all manifestations of the atomic will is something purely ideal,—I might, not to be misunderstood, rather say is *imaginary*, and only by a considerable license of speech can be called the *seat* of the will or of energy; for the only spatial elements in the whole affair are the *manifestations* of force, which never reach the common point of section, in that this always lies only in its *ideal* prolongation. Nevertheless this point must be definite in relation to others, *i.e.*, the distance of the ideal point of section from all similar points of intersection is determined. Hence it of course follows that this distance may also be changed, *i.e.*, that this point is capable of motion.

What, then, actually happens when two attracting forces approach one another? In the first place, the attraction increases; secondly, the actions on all laterally situated atoms so change their direction that their prevailing ideal points of intersection must be conceived brought nearer to one another; the first and the second change stand in such a relation that the attraction increases n^2 times if the diminution of the distance of the points of intersection due to the displacement in direction of the lateral manifestations of force amounts to n. The *reality* is thus always only the *manifestations* of force which have a certain direction and strength, and the change of this direction and strength, whereas the points of intersection are and remain something *ideal*. But the two former, as mental representation, form the content of the atomic will; and one will now understand how the will *itself* may be somewhat *non-spatial*, and by no means need reside in the ideal point of intersection, and move about with this, whilst yet the realisations of its content are of spatial nature, and have a common ideal point of intersection, whose position with reference to other ideal points of intersection are definite and variable.—

The question might here be raised whether the atoms have a consciousness. However, I think that data are all too lacking for any decision to be come to thereupon, since with regard to the means required for the production of consciousness and the degree of movement necessary for overstepping the threshold of sensation we still know next to nothing. Thus much, however, we may assert with confidence: *if* matter has a consciousness it is an atomistic consciousness, and between the consciousnesses of the several atoms no *communication* is possible. Wherefore it is decidedly erroneous to speak of the consciousness of a crystal or of a heavenly body, for in inorganic bodies can at most the atoms each for itself possess a consciousness. Of course this atom-consciousness would, by reason of poverty of content, assume the lowest place

conceivable.—Leibniz, who was not acquainted with the phenomenon of the threshold of sensation, thought himself warranted in deriving from the law of continuity (*natura non facit saltus*) and from that of analogy (*σύμπνοια πάντα*) a certain degree of consciousness for each, even the lowest, monad. However this authorisation disappears through the law of the threshold. When carbonic acid gas, *e.g.*, is more and more compressed, it takes up, indeed, a smaller and smaller space, but still always remains gas; suddenly, however, one reaches a point where it is no longer compressible but becomes liquid; this is, so to speak, the threshold of the gaseous condition. So in the scale of individuals or monads, consciousness may become ever poorer and poorer, but always still remain consciousness, until suddenly a point is reached where the decrease is at an end and consciousness ceases, the lower limit of the threshold of sensation being exceeded. But who can in Nature assign this point with certainty?

We shall, in conclusion, have to take notice of the question whether, in our present mode of regarding the atoms as acts of will, we may look upon them as so many substances, or not rather as phenomena of *one* substance? whether to every atom there corresponds a separate, independent, substantial will,—as a matter of course these also endowed with separate faculty of perception,—or whether a single identical will underlies these many counter-working actions and activities? After having perceived only the opposition, the contradiction of actions, to be the spatially real, but having comprehended the forces themselves as something absolutely non-spatial, every reason disappears for the splitting of will and idea in the eternally non-spatial into an innumerable multiplicity of single substances, and rather the impossibility of the reciprocal action of such isolated and non-contiguous substances compels us to assume that the atoms, just as all individuals, may be altogether merely objectively-real phenomena or manifestations of the All-one, in which. as in their common

root, their real relation to one another may be effected (comp. C. Chap. vii. and xi.) Were the atoms substantially separate and different, the spaces fixed by their unconscious ideational functions would be as numerous as the atoms, and accordingly the spaces *realised* by the atomistic functions of will would be as *numerous* as the atoms. There would then not at all come to pass that which makes possible the community of the spatial relations of the atomic functions to one another, namely, the one *objectivo-*phenomenal, *i.e.*, objectively-*real* space. Such can only arise by the realisation of the unconscious space-ideas, if these latter in all the atoms only compose the inner multiplicity of the content of a single collective idea; and this, again, is only possible if all the atomic functions are functions of one and the same essence as modes of an absolute substance. For him, who elects to stop short at the pluralism of the atoms regarded as substantially different, there will always remain an inexplicable residue even with our conception of matter; this disappears, however, as soon as the final unavoidable step to metaphysical Monism has been taken.

VI.

THE CONCEPTION OF INDIVIDUALITY.

Individual means indivisible (as does atom); but every one knows that individuals may be cut into pieces and divided. We can thus only think of something as individual which in its nature cannot be divided if it is to remain what it is; but this is the notion of unity—Greek *monas* (not to be confused with the numerical concept of the *one*, Greek *ἕν*). According to this, the conceptions unity or monad and individual coincide; but one very soon sees that unity is a wider notion than individual, *i.e.*, every individual is a unity, but not every unity is an individual. Thus every connected form, in virtue of the continuity of space, is a unity. I cannot divide it without annihilating it; still I shall not call the accidental unity of form of a clod, *e.g.*, an individual. Further, every movement or every occurrence possesses a unity in virtue of the continuity of time, *e.g.*, a tone; this unity likewise is not an individual (comp. V. Kirchmann, "Philosophie des Wissens," vol. i. pp. 131–141, 285–307). The unity of coinherence or of interpenetration, as it appears, *e.g.*, in colours, mixtures of taste or smell, and in different qualities of the same thing, is reducible partly to *existence in the same place*, partly to the *temporal coexistence* of different qualities, partly to the *causal* unity of succession, and can accordingly not be regarded as a particular species of unity. The unity of the causal relation is the strongest that there is. We have to distinguish in it three kinds: (1) Unity by identity of the cause (as in the different percep-

tions of a thing); (2) unity by reason of identity of the purpose (as in the many contrivances of the eye for seeing); (3) unity by mutual action of the parts, so that the function of each part is cause of the persistence of the other.—These unities also do not suffice for the conception of individuality. An example of the first is the unity of the many perceptions of a thing, so far as they do not directly contain the identity of place and time, but are only referred to the thing as identical causes. Nobody will maintain that the unity of the perception of a thing is an individual. In the second place, if the unity of purpose consists in the construction of a building, we should not call the sum of the workmen which have this purpose an individual. Thirdly, if a country lives on the natural products of its colonies, and the colonies only exist by reason of the importation of the artificial productions of the mother country, there is here a perfect reciprocity, and yet nobody will call the sum of colonies and mother country an individual.

Each of these unities, then, shows itself as insufficient to fix the notion of the individual. Just as insufficient are the external characteristics which are set up here and there as marks, *e.g.*, the origin from a germ or an egg (Gallesio and Huxley). According to that, all the weeping willows of Europe must be an individual, since they can be shown to be historically derived from a single tree introduced into England from Asia by means of offshoots; thus all spring from one germ. According to that, further, all the plant-lice (perhaps several millions) which are produced by parthenogenesis in ten or more generations in the course of a summer, represent collectively a single individual. Just as little as the derivation from a single egg can the typical idea of the race pass as mark of the individual; for the typical generic idea is the idea of the normal individual, which represents the race because it is free from accidental peculiarities; and one gains this idea of the normal individual by allowing the accidental peculiarities

to be stripped from all individuals of a species, and only retaining the uniform common element in abstraction. It is here at once evident that one must already *possess* the mark of the individual in order to be able to compare the several individuals and to single out the normal type; that thus this type cannot possibly hold good regressively as criterion of the individual, since one would thereby only revolve in a circle. But, in addition, we have undoubted individuals, even where the same do not, or imperfectly, represent the generic idea. Thus the root belongs to the idea of the plant, the tentacles to the idea of the polyp; but if I cut off the twig of a plant or a piece of the tube of a polyp, these have no roots or tentacula, and yet continue an independent existence, since they carry about with them all the conditions of the continued existence; we cannot possibly denude them of individuality. Derivation from an egg and the typical generic idea thus appear altogether unsuitable to serve as marks of the individual; let us therefore return to the conception of unity as we formerly conceived it.

It is true the several kinds of unity considered were likewise insufficient, but if each taken singly is too wide for the limits of the concept individual, yet the combination of all these species of unity in a thing afford the necessary limitations. We had, namely, demanded unity for the individual, because it was of its essence that it should be indivisible; but now it is clear that this requirement is only fulfilled, if not merely in this or that relation, but in all possible relations it is essentially inseparable, *i.e.*, if it combines in itself all possible modes of unity. That the five above-mentioned varieties of unity are in fact all possible and alone possible, it is not difficult to see, for they exhaust the three subjective-objective forms: Space, Time, and Causality.

We have, then, gained a satisfactory definition of the individual: the individual is a thing which unites in itself all possible modes of unity: (1) *Space* unity (of the

form); (2) *time* unity (continuity of action); (3) unity of the (intrinsic) *cause;* (4) unity of *purpose;* (5) unity of *reciprocal action* of the parts (so far as such are present; otherwise, of course, the last disappears).—Where the unity of the form is wanting, as in a beehive, one says notwithstanding that all the other unities are most strikingly present, but not that of the individual. Where the continuity of action is wanting, as in frozen and re-thawed fishes, in dried-up and again softened Rotifers, there exists, it is true, a unity of the thing, but I should consider it an error to speak of unity of the individual; there are in that case just two individuals, which are distinct owing to the pause in their vital activity, as I am different from a man living a thousand years ago. That of the three causal unities none can be wanting to the individual is doubtless self-evident.

It is decidedly of importance for the conception of the individual that no one of these unities is anything absolutely fixed, outwardly rounded off, but all the inferior unities of the same kind can be included and be taken up together with several of their like into a higher unity. It is altogether a vain endeavour to seek for a definite boundary to any kind of unity whatsoever; there are always, again, higher unities conceivable, which include them at the same time, as everything finally is taken up into the unity of the world, and this may again be crowned by a metaphysical unity of different co-ordinated worlds imperceptible to us. If this holds good of the conception of unity, it already shows that it also holds good for the conception of the individual, and that for this, too, the external rounding off and strict separation is only in appearance. This appearance to superficial observation, namely, arises from this, that the individual first comes into being through this composition of *all* the above-mentioned unities. If, now, several individuals are said to be contained in an individual of a higher order, there appertains to that, both in the individuals of the lower

and in that of the higher order, a coincidence of all these kinds of unities; if, on the other hand, any mode of unity is wanting in the former or the latter, there remains, it is true, the subordination of the other unities under the higher ones, but there is then no longer an embracing of several individuals by a higher. Even Spinoza, the monist of purest water, says (Eth. Th. 2, Prop. 7, Post. 1): "The human body consists of several individuals of various nature, each of which is very complex;" and Leibniz carries this idea farther in his Monadology.

Let us first look at the matter in the case of immaterial individuals, where the relations are much simpler. So far, namely, as we have hitherto spoken of individuals, the discussion has only been of material individuals; something quite different to these, and by no means coinciding with them, are the immaterial individuals, which therefore require a quite special investigation. Had a resolution been earlier taken to separate the investigation of spiritual and material individuals, the present terrible confusion would by no means have prevailed with regard to this conception.

We have here again to distinguish between consciously-spiritual and unconsciously-spiritual individuals, and speak provisionally only of the former. Locke asserted that the identity of a person exclusively depends on the identity of consciousness, and this truth has been readily admitted by all later philosophers. The unity which may not be divided, constituting the individual, is accordingly here the unity of consciousness, which we have considered in C. Chap. iii. pp. 113–118. For only by this, that the consciousnesses of two ideas temporally or spatially separate in the brain are taken up into the common consciousness of the comparison, *i.e.*, find in this their higher unity, only hereby does it become possible that the subject or the *instinctively* supposed cause of the one and the other idea is recognised as one and the same, and accordingly both referred to a common internal cause

(Ego). Only so far as the unity of consciousness extends does the unity of the mental processes by causal reference to a common subject extend, only so far extends the consciously-mental individual.

Now we know that in the subordinate nervous centres of men and animals conscious mental processes go on, which, owing to the excellence of the communications, are united into an intimate unity; we shall then be necessarily obliged to recognise in these unities spiritual individuals. It cannot be objected that these other centres are mentally too low to attain to self-consciousness, to the Me. This Me is only *instinctively* presumed, *i.e.*, it does not at all need to emerge as self-consciousness; but all goes on as if self-consciousness existed, and referred all actions to the Ego. This we still see, indeed, in the lowest animals and plants, and call it zoopsychological sensibility. There is, therefore, nothing in the way of comprehending the lower nerve-centres as supporters of conscious mental individuals; but when we further see that sensations of different nerve-centres can be taken up into one consciousness under particular circumstances, which more or less occurs in common feeling, one cannot avoid acknowledging this unity of consciousness as a higher spiritual individual, which comprehends the lower individuals in itself. Further, if we consider that the properly active parts of the white nerve-fibres merely destined for conduction, namely, their axis cylinders, are quite the same as the grey matter, and that the white appearance is merely produced by the medullary matter destined for the isolation of the fibres deposited between axis cylinder and fibrous membrane, one cannot avoid the conclusion that the active parts even of the white nerve-matter have a consciousness of their own of some sort or other of the vibrations, which they are certainly only destined to transmit as their share in the general economy. In like manner, the contracting muscular fibres, or the secreting glands responding to nerve-stimulation, beyond

a doubt possess a certain sensation of these events, since they are, indeed, adapted to propagate the nervous vibrations exciting them beyond the limits of the nerve-fibres to the neighbouring parts. (Thus, according to Engelmann, the peristaltic movements of the ureter are spontaneous functions of its unstriped muscular walls.)

If we further remember the results of C. Chap. iv., where we came upon cell-consciousness in plants, the supposition is very plausible that even the animal cells, in part still more highly organised than the vegetable cells, have their separate consciousness; an assumption which later on in this chapter will receive yet further confirmation. This much is certain, that the animal cells in great part live, grow, increase, and pay their specific contribution to the preservation of the whole, just as independently as the vegetable cells. Why, if they lead just as independent a life, should they not have just as independent a sensation? Virchow says ("Cellulorpathologie," 3d edit., p. 105): "Only when we conceive the absorption of nutritive material as a consequence of the activity (attraction) of the tissue-elements themselves, do we comprehend why the several districts are not every moment flooded with blood, that rather the offered material is only taken up into the parts according to the real need, and carried to the several districts in such proportion that, in general at least, as long as there exists any possibility of conservation, the one part cannot be essentially injured by the others." If this proper activity of the cell holds good for the *reception* of the nutritive materials, how much more for their chemical and formal conversion! There are, indeed, large districts of the animal body which are entirely devoid of nerves and vessels, *e.g.*, the substance of the epidermis, tendons, bones, teeth, fibrous cartilage; and yet a circulation of moisture through the cells takes place as in plants, and a life and an increase of cells without stimulation of nerves. If the animal cells are capable of performances so individual,

just as in the plant, must they not be, like those, supporters of an individual consciousness? The difference is only this: in the animal the importance of the individual consciousness of the cells *is evanescent* in comparison with the individual consciousness of higher orders, but in the plant the cellular consciousness is the principal thing, because it is altogether only in certain sensitive and privileged parts, as flowers, &c., that there can be any individual consciousness of a higher order worth speaking of.

Lastly, should ever the question with regard to the consciousness of the atoms come to be affirmatively decided, the atoms would, in fine, be the conscious individuals of lowest order. Thus for *conscious-spiritual* individuals we have found the *superposition* of individuals of higher and lower orders to be a correct representation; we have now to consider the case of *material* individuals.

Recurring to the organic individuals, the difficulty of deciding the question, what is the individual, is still more evident in the case of plants than in that of animals. In the case of the higher plants, the layman especially designates as individual what the botanist calls the *stem* (cormus). Linnæus, Goethe, Erasmus Darwin, Alexander Braun, and many others sought for the individual in the *shoot*, which answers to a single axis of the plant. Ernest Meyer and others declared the *leaf* in its different forms (discovered by Goethe) to be the true individual, and the pedicle as lower part of the leaf. Gaudichaud, Agardh, Engelmann, Steinheil, and others thought they had found the same in the *pedicle*, as whose upper offshoot they regarded the leaf or the calyx. Schulz-Schultzenstein, on the other hand, tried to find it in the cell groups, called by him anaphytons, as presented in the developing buds. Schleiden and Schwann took the next step, setting up the *cell* as the sole individual in the life of the plant. Each of these views has important reasons in its favour, and, in fact, each of them is so far right in maintaining this or that to be individual, but

wrong in combating the other views; for the question is here not about an *either, or*, but about a *both, and.* The whole plant as well as each branch and sprig, and also every leaf and every cell, combines in itself all the unities which are necessary for individuality. This indeed is coming to be perceived more and more; thus Decandolle distinguishes *five* orders of individuals (cell, bud, offshoot, stem, embryo); Schleiden, *three* (cell, bud, stem); Häckel,[1] *six* (cell, organ, counterpart, afterpart, shoot, stem).

It would be altogether wrong and perfectly untenable if spatial separation and seclusion were asserted to be the condition of individuality, for then twins, only externally connected at some part of the skin (as the Siamese pair, who have lived to upwards of sixty years), would always have to be regarded as only one individual, which would be altogether too absurd. Just as certainly is it erroneous to require in an individual independence[2] of existence

[1] Comp. his "Generelle Morphologie der Organismen." Berlin, Reimer, 1866, vol. i. p. 251. Chapters viii. and ix. of this work, which unfortunately I only became acquainted with after the appearance of the fourth edition of the "Philosophy of the Unconscious," form the best and most thorough confirmation of the opinion I have here expressed concerning the conception of individuality.

[2] On this ground I cannot assent to Häckel's distinction between morphological and physiological individuality, since the latter is only an ill-selected expression for vital self-sufficiency or biological independence. Certainly one must ascribe individuality to every independent and self-preserving living being, but not because it is physiologically independent, but because the physiological independence *presupposes* the coinherence of those various unities in which individuality consists. Häckel himself declares ("Generelle Morphologie," vol. i. p. 333) the "physiologic individual" to be in its nature *divisible*, in contrast to the infinitely *indivisible* "morphological individual," and therewith openly allows the contradiction of the notion in respect of its name. Certainly it is physiologically important to settle with what order of individuals in each class of animals and plants biological independence begins; but why substitute for this perfectly sufficient and clear notion of the "Bion" or independent vital existence that of the "physiological individual"? On the other hand, Häckel's conception of the morphological individual itself contains physiological elements, which are smuggled in unnoticed by means of the indispensable unities of purpose and of the reciprocal action of the parts. We, therefore, do not think we are going far astray when we stop at the unitarian conception of the organic individual, and reject Häckel's attempted division of the same.

without the support of other individuals; one has only to think what would become of the infant if the mother did not offer it her breast, or of young beasts of prey if the parents did not take them with them on the chase; and nobody will deny individuality to children and young animals.

In lower organisms that coalescence which in the higher only appears as abnormity of the fœtal life uniformly occurs. A unicellular Alga, *Pediastrum rotula*, appears in the adult condition only as a complex of cells or a cell-colony of middle cell and peripherally deposited marginal cells. The green protoplasmic content of each of these cells parts for the end of propagation into four, eight, sixteen, thirty-two, or sixty-four globular branch cells, which on emergence possess an independent motion lasting a tolerable time; but then lie beside one another, eight for every surface, in order by growing together with one another to form a new rosette-like colony, which, although consisting of eight unicellular Algæ, yet comports itself entirely as an individual. Similar processes are found in a few other Algæ, *e.g.*, the water-net (*Hydrodictyon*).—In a polyp-stock, every single animal is as certainly an individual as the whole stock is an individual, since its parts, like the members of a so-called simple animal, are related to one another through the community of the nutritive process, and nevertheless maintain their morphological independence. "Every compound zoophyte springs from a single polyp, and grows (like a plant) by continued gemmation into a tree or a dome. The trunk of an Astræa twelve feet in diameter unites about 100,000 polyps, each of which takes up a square half inch; in a Porites, whose animalcules are hardly a line in breadth, their number would exceed five and a half millions. In it, therefore, there are an equal number of mouths and stomachs to a single zoophyte, contributing together to the nutrition, gemmation, and growth of the whole, and also united laterally to

one another" (Dana in Schleiden's and Fror. Not., 1847, June, No. 48). Whoever ascribes individuality to an oak-tree must grant it also to such a polyp-tree.

The globular animal, *Volvox globator*, is (although not belonging to the corals) a polyp-stock formed of several animalcules, which, sitting on the circumference of a sphere, are only united by feather-like tubes. "If one puts some red or blue colouring matter into the water under the microscope, a powerful current round the balls is very distinctly perceived. This is a consequence of the collective action of all the single animalcules, which, like herds of animals, flocks of birds, even singing or dancing human beings and crowds, possess a common rhythm and a common direction, often even without the word of command, and without being clearly conscious of a purpose. Thus float all polyp-stocks, and the sympathetic as the more coldly judging naturalist sees herein a social impulse, which consists of force and pliability for common purposes, a condition requiring a mental activity, which one may be betrayed into, but not justified in rating too lightly. One must also never forget that all the single animalcules possess organs of sensation which are comparable to eyes, and that they accordingly do not turn themselves blindly about in the water, but, as citizens of a great world very remote from our estimation, share with us the enjoyment of a highly sensitive existence, however proudly we may bear ourselves" (Ehrenberg in his great work on the Infusoria, p. 69). This judgment is so interesting just because it shows how the modest but great naturalist, overpowered by the simple facts, recognises an instinct of the masses and a stirring mental life at those lower animal grades.

"In the Mediterranean there is a rich family of splendid swimming-polyps, which Carl Vogt in particular ("Recherches sur les Animaux inférieurs de la Méditerranée") has brought to the knowledge of the scientist. A young polyp is developed from an egg. It begins its life

freely floating in the sea. At its upper end it forms a bubble, in which the air is set free which supports it; at its lower end there are formed, in ever richer and fairer measure, feelers and prehensile threads with special urticating organs. On its stem, which is continually elongating, there is formed a filtering tube. From this stem arise bud-like shoots. Some of them form swimming bells, which propel themselves, and consequently the whole mass. The others are metamorphosed into fresh polyps, which possess mouth and stomach, and not merely collect, but also digest food for the whole, to deliver it finally into the common trunk-tube. Finally, yet other buds attain a nettle-like aspect, and provide for propagation; they bring forth ova, from which again proceed freely-floating polyps." (Special polyps with long sensitive tactile threads represent the sense-organs or the intelligence of this state.) "What is here individual? The young polyp appears to us simple, but out of it there is formed a stem like a plant. The stem sends out tentacles like roots, but they move voluntarily, and grasp prey; it forms a trunk with a digestive sac, but it has not any more than the plant a mouth to make use of the sac. It sends forth buds and sprouts like the plant, but every bud has a special task, which it performs with the appearance of original activity. Special sprouts or branches endowed with movement of their own manage, some the reception and digestion of the food, others propagation. The trunk is nothing without the limbs, the limbs nothing without the trunk" (Virchow, "Vier Reden," pp. 65, 66). Whoever holds fast to the "either-or," certainly such an example must reduce to desperation; but we see in the several members individuals partly of polyp-form, partly medusoid, and, in the whole, an individual of higher order, which includes in itself all these individuals. Even in the bee- and ant-hive there is nothing wanting to complete the view of the whole as an individual of higher order but spatial unity, *i.e.*, the *continuity* of the form; here

this likewise is present, and therefore the individual is indisputable.

This widespread phenomenon in the animal and vegetable kingdom of a varied physiological development of morphologically originally similarly constructed individuals of the same species is termed Polymorphism (even the separation of the sexes comes under this conception). Kölliker recently discovered an interesting example in the family of the sea-pens (*Pennatulidæ*). Without entering into the morphological significance of the organs of the trunk, which serve as supporters of the several animals, it is to be said that here the sex-animals, devouring animals, and feeling-animals are not different, but one; on the other hand, stunted individuals without tentacles and sexual organs occur, which used to be regarded merely as warts (granulation) of the skin, but which otherwise possess altogether the structure of the sex-animals, and perhaps have a particular relation to the imbibing and venting of water. It is one and the same principle of *division of labour*, of the facilitation of a collective performance by distribution to various one-sidedly endowed organs, which, in the organised state of the bees, and still more in that of the ants, conditions the different development of from three to five separate individuals, and that here he assigns the system of movement, of assimilation of food and digestion, of perception and propagation to diverse individuals coalescing into an individual of higher order. It is just this principle, however, which we find also carried out in the higher plants, where the roots provide for the reception of nutriment, the leaves for respiration, the flowers for propagation, whilst a trunk or stalk gives support or cohesion to the whole, as the middle stem of the floating polyp commonwealth. As in the bee-state the sexual activity is personified in drones and queen, so also in the diœcious plants, *i.e.*, in those in which the one plant bears merely male, the other merely female flowers; and in the monœcious, where male and female flowers are on one

plant, are these flowers not to be called individuals, because they happen to be united in space by other parts of the plant?

But not merely in the remote region of lower marine animals do we thus manifestly find compound individuals. The comprehension of the tape-worms, in which the head, by means of so-called nurse-generation, produces an entire colony of hermaphrodite sexual animals, leads us to the correct estimation of the anatomical structure of the annelids, and these guide us to that of the articulata. In the lower Annulata each segment has its gills, its expansion of the intestinal canal, its contractile distension of the large blood-vessel, its ganglia, its ramifications of the nervous and vascular trunks, its organs of propagation, its locomotor appendages, and sometimes even its special pair of eyes. Among the Articulata the Myriapoda stand nearest to the Annelids; the process of gemmation of segments, which is characteristic of the compound individual, is here in part to be very distinctly observed in the embryological history of development; the larva of the milliped, which is hatched with eight segments, forms, even in the first moulting, between the ultimate and penultimate segment six new ones. In the degree in which the division of labour and perfection of the type progresses from the tape-worms to the Annelids, to the millipeds and from these to the higher Articulata (crabs, spiders, insects), in the same degree is there exhibited an intensified differentiation of the segments of which the compound insect consists; but even in the most perfect insects, with the assistance of the individual and the palæontological history of development the composition from segments, which are conceived as originally independent, is still more certainly to be made out, and however far the differentiation may otherwise be carried, there yet remain certain functions (*e.g.*, respiration) here always decentralised.

The successive segments of the Vertebrata, which consist of a vertebra with its osseous processes, together with

the appertaining muscular, vascular, and nervous pairs, unquestionably exhibit a certain analogy with these successive pieces of the compound worms and millipeds. Nevertheless this does not seem to me sufficient to place, with Häckel, both forms on the same level of individuality, because in the compound worms the manifold of the collective individual arises by aggregation of many single individuals, but in the Vertebrata by *internal differentiation*. It makes no difference here whether the several individuals are the result of sexual congress, or whether, as in the tape-worm, they are produced from an originally simple individual by way of nurse-generation; both form a mutual contrast to the interior, gradually progressive differentiation of the vertebrate organism, whose prototype, the Amphioxus, forms by no means the analogue of a compound, but of a simple worm. The course of development in the Invertebrata and Vertebrata is accordingly an exactly opposite one. In the former it is the manifold, which concretes to unity in increasing measure by means of unlikeness and closer connection of the parts; in the latter unity is the starting-point, which unfolds to the wealth of the manifold by enhancing the inner multiplicity; in the former case the individuals of lower order grow together to an individual of higher order; in the latter case an individual unfolds into individuals of lower order, and thereby at least relatively enhances the degree of its order of individuality. Thus it becomes intelligible that, in spite of the opposite starting-point, both courses of development approach one another so much nearer in their *results* the farther they have progressed, *i.e.*, the more closely on the one side the composing members have coalesced, and the more they have converted their functions, fulfilling originally merely particular aims, to serviceable functions of the higher whole,—the farther on the other side the inner differentiation of the successive portions, organs, and systems of organs has advanced.

As the above-mentioned floating polyp-stocks and

Pennatulidæ are remarkable for the several individuals composing them being entirely lowered to the rank of differentiated organs of the higher collective organism, so conversely we see that in the higher animals the organs obtain the more sharply defined individuality, the more strongly they are differentiated in their functions and their constitution. One may again distinguish within the organs three essentially different grades of individuality of organ; the simple, the compound organs, and the systems of organs. The simple organs (Häckel's organs of first and second rank) consist of a tissue of one kind; the compound of that of several kinds; the systems of organs are the indivisible union of a number of single and compound organs in the whole organism, so far as they serve a particular functional purpose. Simple organs are, *e.g.*, the epidermis, whose appendages (hairs, nails, scales, cutaneous glands, crystalline lens), cartilage, and several other vascular and nerveless forms of the connective tissue; compound organs are such as the several muscles, nerves, bones, blood-vessels, mucous membranes. The sense-organs are mostly of so complicated a nature that they conduct us from the organs to the systems of organs, *e.g.*, the sum of the endings of the tactile nerves beneath the epidermis. As system of organs one may further cite the protective system of the surface of the body (epidermis with appendages), the system of the skeleton, the muscular system, the nervous system, the vascular or circulatory system, the intestinal or digestive system, the respiratory system, the generative or reproductive system. Of course between these different systems in the higher animals there takes place a very intimate interpenetration and interlacing; still even morphologically their separation can very well be accomplished, and there is no apparent reason why the more intimate fusion should afford a motive for doubting the relative individuality of these systems, which is so glaring in the floating polyps in spite of the local fusion, and in the communities of bees and ants is devel-

oped even to the partition of functions among *discrete* individuals. In the spatially more sharply defined simple or compound individual organs the acknowledgment of individuality should meet with still fewer difficulties; as certainly as to the single leaf or stamen of the plant belongs a kind of individuality, so certainly to a hair of a man's head does a sort of individuality appertain. In lower animals single organs sometimes testify their individuality by releasing themselves from the collective organism, and yet go on living and regularly perform the office for the sake of which they are there; thus, *e.g.*, in several kinds of Cephalopods (Argonauta, Philonexis, Tremoctopus) the males have a hectocotylus, *i.e.*, an arm elaborated into a sexual organ, which performs the procreative act by being liberated from the male and penetrating into the female. This hectocotylus was at first regarded as a parasite, afterwards as the rudimentary male of the respective cuttlefish, until it was perceived to be the individualised organ of the male.

Of importance for our theme is likewise the pathological conception of *parasitic* formations. I shall let an authority in this field, Professor Virchow, speak for me. ("Cellular Pathology," pp. 427, 428): "Let one only remember that parasitism only *gradually* comes to mean something else than the notion of autonomy of each part of the body. Every single epithelial and muscular cell leads in relation to the rest of the body a kind of parasitic existence, just as every single cell of a tree in relation to the other cells of the same tree has a special existence belonging to it alone, and withdraws from the rest of the elements certain matters for its needs (ends). The notion of parasitism in the narrower sense of the term is developed from this conception of the independence of the several parts. As long as the need of the remaining parts presupposes the existence of any part, as long as this part is useful in some way or other to the other parts, so long one does not speak of a parasite; it becomes so, however, from the

moment when it is foreign or injurious to the rest of the body. The conception of the parasite is therefore not to be confined to a single series of excrescences, but it belongs to all plastic (formative) forms, but before all to the heteroplastic, which in their further elaboration do not produce homologous products, but new formations, which are more or less unsuitable in the composition of the body (at this particular place)." From the unmistakable individual independence of the parasites and the purely gradual difference between them and normal formations one may also regressively conclude to the individual independence of the latter.

Still more distinct is the individual independence in those structures which exhibit also morphologically a certain local separation from the rest of the body, and yet in their independent functions produce an effect subserving the ends of the entire organism. I may mention, *e.g.*, the seminal filaments. The time has gone by when the spermatozoids were regarded as independent animals analogous to the intestinal worms destitute of mouth and stomach, for the purpose of their existence and above all their developmental history testify to the contrary. Nevertheless we cannot deny to these structures an individuality. In the diluted semen the filaments may be seen to contract, to revolve on their axes, lash with their tail, jerk forwards the head, and freely float about in all directions, the wriggling or screw-like motion of the tail effecting the movement. These movements appear most arbitrary in the spermatozoids of the animal species where fertilisation is most difficult, *i.e.*, in the mammalia, and become the more simple and regular the more easy in the ascending animal scale fertilisation becomes by the number, size of the ova, and arrangement of the place of fertilisation. That a certain dependence of existence on particular surrounding external relations, or even a linking with the existence of other organisms, does not disprove individuality, we have already mentioned before (one has only

to think of parasitic animals); but the spermatozoids have also a tolerably long life outside the seminal fluid in every blood-hot, chemically indifferent fluid, if they are only not hygroscopically deformed by the same. In the female organs of generation of the mammalia they continue to live for days, nay, weeks; and in the seed-pouches, *e.g.*, the male river-crawfish, which, in the rut, attach to the females in autumn, or in the seminal vessels of humble-bees and wasps that have copulated in the autumn, they continue to live until the spring, to then fertilise the ova which have in the meantime become ripe. This already proves a high degree of independent vital capacity after the separation of the organism producing them. The morphological type of all spermatozoids of the whole animal kingdom are the zoö spores of the Protist kingdom, structures of whose individuality hardly a doubt could well be suggested. It is just the zoö spores of the lower organisms which exhibit the extremest degree of individual independence (in the Myxomycetes the spores even increase for several generations by fission), and nevertheless many of them surrender the same in the act of *copulation*, in which two or more individuals lose their individuality and blend into one new individual. In the copulation of the zoö spores we have to see the prototype of the fertilising act, in which likewise two individuals (ovum and seed-filament) allow their individuality to become lost in that of a single new individual. When the plasmodes of the Mynomycetes in their apparently lawless creeping about now disintegrate, now flow together into one, we shall perceive therein a phenomenon merely of life and growth. We see, then, how near procreation stands to growth even in reference to the act of copulation of the materials of generation, if we compare with the confluence of two plasmodes the congress of a number of zoö spores to form a plasmode. If here only a summation of like individual forces appears to be intended, the thought is forcibly suggested of a neutralisation of invisible individual differ-

ences in a copulation of *two* zoö spores, until in sexual generation this difference rises to the height of a characteristic contrast of the generative substances.—If one should attempt to dispute the autonomous movements of the spermatozoids by a parallel with the movements of cilia, I should reply that in my view conversely the autonomy of the former makes for that of the latter. An alternating movement of a structure separate in form, which demonstrably neither follows on mere external stimulus nor is even produced by central parts, since it persists after the isolation of the smallest portion of ciliated epithelium, must arise from a cause inherent in the structure itself, *i e.*, bears the character of a certain individuality. That the movements of the ciliary hairs of a surface frequently agree with one another in such a way that regular total movements, continuous waves, &c., arise, cannot weaken this opinion. The like is also found in the bundles of spermatozoids, where in each bundle regular waves flow on one after another, or in those which are deposited together in a thickly packed mass (*e.g.*, in the earth-worm), where the beautiful, regular waving is said to be comparable with that of a cornfield. It is just the same co-operation of many individuals towards a goal as in the organism in general.

There are Protista (*Amœba diffluens* and *porrecta*) whose sole locomotion consists in this, that they shoot out rays in which the substance of the animal combined with the points flows after one, or even several, whilst the previous centre is thereby narrowed to the ray remaining behind, which now withdraws to the new centre of gravity. On precisely the same principle (according to Van Recklinghausen) pus corpuscles move as long as they are living; they too shoot out radiated processes at the periphery, and withdraw the same; and at times one observes that the viscous content of the cell darts after into such a ray. The identity of these pus corpuscles with the most common form of the white lymphatic bodies was subsequently

demonstrated by Cohnheim, and their exit at the place of suppuration established. Then Virchow observed similar phenomena of movement in the large-tailed cells which are found in a just excised cartilaginous tumour. Movements had already been discovered in the blood corpuscles of several animals. Without desiring to place the pus corpuscle and similar freely moving structures morphologically, chemically, or physiologically beside the corresponding lower animals in any way, from which they are so entirely distinguished by their historical development, I yet think that they may lay claim to an equal right of individuality with those, since they, if not animals in the zoological sense, are yet beings which move about in their environment just as purposively and with the same appearance of voluntariness and animation as the lower infusoria. That the circumstances of nutrition are accommodated to the medium entirely answers to the general processes in organic nature, and that they have accordingly no mouth and stomach, cannot detract from their individuality, since there are indeed animals also in whom both are wanting.

The most recent discoveries on the immigration and emigration of these amœboid corpuscles from the blood circulation into the tissue and back again lift the process of nutrition out of the inorganic into the organic sphere, in that, quite analogously to the procreative process, they may be perceived to be conditioned by the living individuality of their substrata. The nutritive fluid absorbed from the intestine as it enters into the lymphatic vessels as yet contains no formed elements, but doubtless it copiously receives such from the lymphatic glands; similarly the vascular glands, above all the spleen, are breeding-places of these amœboid elements. They pass through the walls of the blood-vessels into the tissue of the body, in that at first a fine thread-like process is pushed through a pore of the vascular wall, and if the process, which lasts for hours, remains undis-

turbed, the total content of the corpuscle gradually follows. These points have been most certainly established, as the eagerness of these corpuscles for the reception of finely divided pigments facilitates observation. As connective tissue corpuscles they now penetrate into all organs, and the cell-wanderings of the connective tissue enveloping all the organs have been even longer known. When they have fulfilled their office, they retreat through the walls of the blood-vessels or lymphatic vessels again into the circulation. Unfortunately we do not yet know anything more particularly with respect to the chemical differences on entrance and exit, and their possible regeneration into a condition capable of nutrition. This much is, however, certain, that the colourless blood corpuscles must also be regarded as the origin of the red blood corpuscles, which are the substrata of the respiratory process in the widest sense. The passage from the one to the other form is guaranteed by numerous intermediate stages. The red blood corpuscles now present, it is true, at their periphery no visible phenomena of movement; but according to the investigations of Brücke, which have been found to be confirmed also by other distinguished histologists, the red-coloured amœboid individual (zooid) is here only limited with its movements to the interior of its case, which consists of a porous, immobile, very soft, colourless, and vitreous substance (oikoïd). In the normal condition the zooid pervades the whole oikoïd, and leaves in the centre a colourless nucleus; placed in water, it withdraws, however, from the periphery to the centre, so that now the former appears colourless, the latter red; not rarely one sees amœbiform processes radiate from the red centre to the periphery.—In the face of such results in regard to a living individuality of the supports of the nutritive and respiratory process in animal organisms, the naturalists in question have seen themselves constrained to the admission that only the view of the organism as a complex of living elementary beings is capable of doing

justice to the phenomena. Each of these individual beings floats about independently in the lymph or the blood, and antonomously executes its functions predesignated for it by its own individual nature, and yet the results fit as organically together as if a secret tie united these beings, or a secret commander guided their performances according to a higher plan.

But even before these recent surprising clues to the supports of nutrition and respiration, thinking naturalists, on considering the *cell* as the elementary fundamental form of all organic construction, have felt themselves compelled to the acknowledgment of living individuality *within* the externally limited organism. "All life is bound to the cell, and the cell is not merely the vessel of life, but it is itself the living part" (Virchow, "Vier Reden," p. 54). "What is the organism? A community of living cells, a little state, well provided with all appurtenances of upper and under officials, servants and masters, great and small" (p. 55). "Life is the activity of the cell; its special character is the special character of the cell" (p. 10). "Peculiar appears to us the mode of activity, the special function of the organic matter, but yet it happens in no other way than the activity and function which Physics reveals in non-living nature. The entire speciality is limited to this, that the greatest multiplicity of material combinations is packed together in the smallest space; that every cell represents in itself a seat of most intimate effects, most manifold material combinations with one another, and that therefore results are attained which nowhere else occur in nature, since nowhere else is a similar intimacy of effects known" (p. 11). "If we will not make up our minds to distinguish between collective individuals and single individuals, the conception of individual in the organic branches of physical science must either be abandoned or be strictly confined to the cell. To the former result both the systematic materialist as well as the spiritualist must logically come; the unprejudiced

realistic view of Nature appears to lead to the latter, in as much as only in this way is the unitarian conception of life assured for the whole sphere of vegetable and animal organisms" (pp. 73, 74). This is the final result of Virchow; one sees that he grazes the truth, without having the courage to grasp it firmly. What concerns us here is his well-established conception of the cell, which he has further elaborated according to the suggestions of Schleiden and Schwann, and therewith has raised animal physiology and pathology to a new level, so to say; comp. Virchow, "Cellularpathologie," especially chaps. i. and xiv. That organisms in general consist of cells, and moreover of so many microscopically minute ones, for that there is the teleological ground that nutrition can only be effected by endosmosis. Endosmosis is only possible through very thin, firm walls. Thus if with these thin walls the necessary solidity is to be attained, the whole system must be a complex of very small cells. How great is the number of cells is proved by the following quotation:—

"At Zürich, near the Tiefenhof, stands an old linden-tree; every year, when it puts on its ornament of leaves, it forms, according to the estimate of Nägeli, about ten billions of newly living cells. In the blood of an adult man there circulate, according to the calculations of Vierordt and Welcker, at every moment, sixty billions (think: 60,000,000,000,000) of minutest cellular bodies" (Virchow, p. 55).

After all this, we cannot doubt that we have before us in every cell an individual; but whether with the cell we have reached the lowest grade of the individual, which is still organism, this may still appear doubtful.

We distinguish, namely, in most cells: cell-wall, cell-content, kernel or *nucleus*, and usually also, in addition, kernel-corpuscle or *nucleolus*. These parts are decidedly to be regarded as organs of the cell, having their special functions. The cell-wall regulates the income and outgoing according to quantity and quality; the *nucleolus* takes

care for propagation or increase of the cells (cells without *nucleolus* are infertile); the *nucleus* secures the continuance of the cell, and probably directs the chemical transformations and productions in the interior of the cell. If the relative independence of these organs is to be regarded as established, one can hardly dispute whether they are still organic individuals, for undoubtedly within every such sphere there takes place an organic reciprocal action of the parts for the sake of the function to be exercised.

This relative independence of the organs of the cell, inferred by me *a priori*, has recently received a needed confirmation through the inquiries and observations of the botanist Hanstein, which he has made especially on the cells of some vegetable capillaries, but also on the parenchyma cells of different plants. In the large hair-cells of the Cucurbitaceæ and many Compositæ, *e.g.*, one sees the cell-nucleus suspended about the middle of the cell by protoplasmic bands, "like the spider in its web." The protoplasmic bag-like covering of the nucleus, the bands, and the cell-wall exhibit the most varied movements, by means of which the main and side currents of the fluid cell-content circulating in the cell must be explained. Independent of the latter, however, because without reference to their direction, and often even opposed to it, are the movements of the cell-nucleus, which require now a few minutes, now, however, even several hours, to traverse about the space of the cell. Now they are rectilinear, now frequently interlaced, now the nucleus intersects the cell crosswise, now it creeps along clinging to a wall. By this both nucleus and nuclear envelope and bands constantly change their form, and the nuclear corpuscle changes its situation in the nucleus.—In the division of the cell, also, characteristic modes of movement take place. In the first place, the nucleus repairs to the centre, and the bands draw nearer to form a heap of plasma. Then the nuclear

corpuscle first divides into two, and thereupon the nucleus is halved by a fine, just perceptible border, until the division reaches also the protoplasmic mass, in which gradually a new wall of cellulose is formed. Now the two new nuclei (in medulla-parenchyma-cells of Dicotyledons) betake themselves tolerably quickly to the wall, creeping to opposite sides of the old cell-wall, where they rest a certain time before they again begin their normal life. "Thus, then, the cell-nucleus, through the changeability of its own form, as well as through the still greater one of its covering, and through the restless shifting and remodelling of the bands which issue from it and keep it in suspension, acquires a striking resemblance to a young plasmode or an amœbiform organism. Nay, it resembles such an one during its creeping about to such a degree, that substantially only the union with the wall-protoplasm serves as a point of distinction." According to this, Hanstein adopts the above-mentioned view of Brücke, "according to which the whole protoplasmic system must be conceived as an *individualised* organism, *i.e.*, a living, moving, proper being, consisting of nucleus, peripheral envelope, and radial or net-like uniting members, and found within its self-formed shell, the cellulose wall, in continual motion, which consists in a gliding hither and thither, and a consequent shifting and constant remodelling of the internal articulation. As the mollusc not only constructs its own shell, but moves within the same, so the protoplasmic body within its cellular membrane. Not the currents in the bands, not the cell nucleus, not the primordial sac *per se* are the seat and cause of the movement. *The whole protoplasmic body*, which is not a substance, but an organism, moves in all its parts, now simultaneously, now alternately, as indivisible, amœbiform, vitalised, proper being, which of course in the higher plants is only partial existence of a larger whole" ("Botanische Ztg.," 1872, Nos. 2 and 3).

If in the Monera or protoplasmic primitive animals the

observation of the microscope cannot establish any morphological differentiation of the apparently homogeneous slimy clot, there still follows from the fact that the essentially different behaviour of the Monera in propagation and nutrition has already necessitated the discrimination of seven different kinds, that doubtless an inner differentiation must exist. If the viscidity or tenacity of an extremely fluid water-drop is at its surface very much greater than in its interior, and this difference increases in an astonishing degree in aqueous albuminous solutions, it must certainly obtain in a viscous protoplasmic drop or clot, even when the condensation at the surface does not reach such a degree as to become visible to the eye as solid cell-envelope, to say nothing of its being separable as isolated membrane; the statements with respect to cells destitute of membranes or plasmic clots are therefore always to be understood *cum grano salis.* Even when an intussusception of solid pigment-molecules is proved by means of amœbiform movements, a certain viscosity of the state of aggregation of the surface is always apparent, but considerable difference of the state of aggregation between surface and content is by no means refuted. (The formation of an envelope in drops has recently been very well observed by Famintzin in solutions of carbonate of lime, by allowing concentrated solutions of chloride of calcium and carbonate of potash to act upon one another with gradual addition of water.) In a similar manner, as a condensation takes place at the surface even before it becomes visible, can a condensation also take place at the centre without being perceptible to the eye. Under all circumstances, however, the superficial condensation must occasion a *functional* difference from the less dense content, as is manifested in the absorption of booty. In the same way the inner condensation of the centre must condition a functional difference, as it appears in the division proceeding from within. Where, then, cell-membrane

and nucleus appear to be wanting, whilst yet the cell manifestly performs the functions thereto appertaining, there must necessarily exist analogues of these organs imperceptible to the eye. Only in this way can we understand the development of nucleated membranous cells from simple plasmic clots, as required by the Theory of Descent. How overhasty it were, relying on the mere visible appearance, to deny a differentiation of the Monera into organs of various functions is eminently proved, besides the indiscernibility of an actual membrane at the apices of several cilia, by the analogy with the just fertilised ovum, in whose apparent molecular homogeneity those differences must yet exist, so that in its development to the child "the finest mental and bodily peculiarities of the parents are afterwards manifested in the same. We must here stand still in wonderment and admiration before the almost infinite delicacy of albuminous matter" (Häckel, "Natürliche Schöpfungsgeschichte," 2d edit., p. 179).

These would, then, be the lowest individuals which could be called organic. There is a question, however, whether we are altogether entitled to require of an individual that it be organism. This much is certain, as long as a thing has *parts,* so long must these parts be in organic reciprocal connection, if the teleological unity of relation is not to fail; *i.e.*, as long as a thing has parts it must be *organism,* if it is to be *individual.* But how if a thing has no more parts? If of a thing with parts one requires the most intimate causal relation of the parts only that it may possess the greatest possible unity in all directions, should then this greatest possible unity not exist in yet far higher degree where the thing is in its nature *simple, i.e.*, without parts, thus this requirement is from the first rendered superfluous? The unity of place, cause, and purpose is, *eo ipso,* given with the simplicity of the thing; but the requirement of reciprocity of the parts, which in the compound thing was a necessary

evil, has here been fortunately superseded, since all the parts are reduced to one, which is at the same time the whole; the unity of the simplicity is thus much stronger than the unity of the reciprocation of the parts. It does not detract from the worth of the present argument when the notion of unity is asserted to be inapplicable to the simple, for we had only reached the notion of unity by seeking what is individual, *i.e.*, what *in its nature cannot be divided.* This is, however, undoubtedly at least as much the case in the *simple* as in the *complex* unity, nay, even still more than in the latter, for the unity consisting of united parts always carries in itself the possibility of resolution into parts, but not the simple.

Such a simple thing, which thus has the highest claim to the conception of the individual, we are cognisant of, however, in the immaterial functional atomic force, which consists in a single continued act of will. Save the atoms there can be no individuals in the *inorganic* sphere, for everything which consists of several atoms has these for its parts, and must accordingly be *organism* if it is to be individual. It is thus wrong to call a crystal or a mountain an individual. On the other hand, we may very well call the heavenly bodies, so far as they are still living, individuals, for they are then in fact organisms; but with their extinction the individuality also perishes, as in animals and plants. Whoever doubts that a *living* Astrum, such as the earth, is an organism, need only study the mutual action of atmosphere and interior in the circulation of water, the reciprocal action of stratification and lower animal kingdom, as well as the strata among themselves in the metamorphosis of rocks, and the mutual action of the organic kingdoms. In short, let him study geology, meteorology, and the household of Nature on the large scale. He will everywhere find revealed the essence of the organic world, *preservation and improvement of form by change of matter*, without it being thereby implied that the direct

participation of the will of the Unconscious (beyond the atomic forces in the actual combinations and the organisms concerned in the formation of the strata) is requisite for that end.

Let us now consider how the conscious individual is related to the material, or, better expressed, external individual. It is at once evident that only where an external individual is given can a conscious individual become possible; but a conscious individual need not arise in every external individual. *The external individual is thus a condition, but not the sufficient reason, of the conscious individual.*

We have seen that a certain kind of material motion with a certain intensity is the condition of the origin of consciousness. All those external individuals must thus be excluded from the production of a conscious individual which do not fulfil these conditions in the character or strength of their movements. It is just possible that the atomic forces, perhaps also several cells of a too solid or a too fluid nature, are in this case. Inorganic masses without external individuality have evidently also no conscious individuality, for even if the several atoms are to have their consciousness, this would always remain in atomistic dispersion through lack of a uniting bond, but could never reach a higher unity. Where we first find visible traces of consciousness is in the *cell* with semi-fluid content (protoplasm of the protists); here undoubtedly the unity of consciousness is introduced through the same conditions as its origin, since the part of the cell-content satisfying these conditions is distributed homogeneously to all sides of the cell. We shall then be permitted to assume that where consciousness is present in a cell, an inner conscious individuality also corresponds to the external individuality.

Where several cells coalesce to form an individual of higher order, the consciousnesses of the single cells by no means need be united into a higher unity, for this depends on the presence and excellence of the communication.

However, the assertion may not appear venturesome, that between fresh, vitally active cells there always takes place a certain amount, however small, of communication —at least always between two neighbouring cells; the question is only whether the degree of excitement also exceeds the threshold of stimulation. If through the sensation of a cell there is likewise produced a sensation in the adjoining parts owing to irradiation, there manifestly takes place an indirect influence from each cell to every other; and although so indirect and manifestly minute an influence on several cells, on account of the increasing resistance, must necessarily remain very soon below the threshold, and consequently does not authorise us to speak of a conscious individuality of the whole, yet a certain solidarity of interests is here not to be mistaken. If, according to this, a conscious individual of higher order by no means need correspond to every external individual of higher order, yet this much is certain, that different conscious individuals can only then unite to form a conscious individual of higher order, if the external individuals corresponding to them are fused into an individual of higher order; for the communication necessary for the unity of consciousness can only be set up through the medium of highly organised matter, but this directly sets up the unity of the form, of the organic interaction, &c., in short, the external individual of higher order.

Our assertion is thus verified in every respect—that the external individuality is possibly *condition*, but not sufficient *cause* of the conscious individuality, because the latter also presupposes three further conditions—a certain *mode*, a certain *strength* of material movement, and, in individuals of higher order, a certain excellence of *conduction*. If one of these three conditions is not satisfied, no conscious individual can correspond to the external individual.

I believe that the division and discussion of the outer

and inner individual here worked out may essentially contribute to the clearing up of the question of individuality; it is the necessary complement to the cognition of the relativity of the conception of individuality.

The relativity of the conception of individuality is for the rest no new cognition of the last decennia. Spinoza says, as already mentioned above: "The human body consists of several individuals of various nature, each of which is very composite;" and Goethe: "Each living thing is no single thing, but a manifold; even if it appears to us as individual, it still remains a collection of living, independent existences, which resemble one another in idea, in design, but may phenomenally be like or similar, unlike or dissimilar. The more imperfect the creature is, the more are these parts like or similar to one another, and the more do they resemble the whole. The more perfect the creature is, the more dissimilar are the parts to one another. The more similar the parts are to one another, the less are they subordinated to one another. The subordination of the parts points to a more perfect creation." (The latter observation expresses what we have tried to illustrate by the simile of the monarchical and republican form of government.)

The relativity of the notion of individuality was discussed most thoroughly by Leibniz, although his mode of regarding the matter is essentially distinguished from ours, in consequence of his different conception of "body." With Leibniz, each monad has an unchangeable and imperishable body peculiar to it, which forms its fence, and through which its finitude is established. This body is not substance, any more than the soul of the monads, partially conceived, is substance; and between *this* body and the soul there exists no pre-established harmony, since it would here be superfluous; but they are both only moments, differently directed forces, of one and the same simple substance, the monad, which is its natural unity; and this is Leibniz's identity of soul and body (thought

and extension). This inalienable body is, however, something purely metaphysical, and nothing physical; at the most, in the case of the atoms, can we, in a certain sense, allow the Leibnizian conception to pass in physical respects. In all individuals or monads of higher order, on the contrary, the idea of an inalienable body *in addition to* the visible body, compounded of other monads or atoms (an idea which has long made a spectral appearance under the name of an ethereal body), has been happily set aside by science: we now know that all organisms only maintain their existence by means of *change of matter.* We will, however, do Leibniz no injustice; what he conceived by the body peculiar to the monad is, at all events, a metaphysically far more tenable thought. I suppose that he intended thereby to express nothing more than the capacity of the immaterial monad to produce *certain spatial* effects,—a faculty which doubtless pertains to all monads, the highest as well as the lowest, and which only by means of the peculiar reference of the lines of action to a point in the atom-monads, and their combination for sensuous perception from outside, evokes the *phenomenon of corporeity.* But, at any rate, "body" is not a happily selected word for describing the power of acting in space, as only the combination of the lowest kind of spatial forces has a right to this term. Let us leave on one side, however, this inalienable monadic body, and consider how Leibniz conceives the composition of the monads.

When several monads come together, they form either an inorganic aggregate or an organism. In the organism are contained higher and lower monads, in the inorganic aggregate only inferior monads; therefore in the former there takes place subordination, in the latter only co-ordination of the monads. The higher the grade of the organism, the more prominent is the predominance of *one* monad in perfection in comparison with all the others. This is then called central monad. The higher

monads are obscurely and imperfectly represented by the lower ones; the lower by the higher, on the other hand, clearly and perfectly. "Et une créature est plus parfaite q'une autre en ce qu'on trouve en elle ce qui sert à rendre raison *a priori* de ce qui se passe dans l'autre, et c'est par là, qu'on dit, qu'elle agit sur l'autre. Mais dans les substances simples ce n'est qu'une *influence idéale* d'une monade sur l'autre" ("Monodologie," Nos. 50, 51, p. 709).

Leibniz denies the *influxus physicus* between the monads when he says these have no windows through which anything could shine; the *influxus idealis* which he puts in its place consists for him only in an *accord a priori* of that which the monads picture, *i.e.*, in a *pre-established harmony*. But now the relation of the central monad in an organism to the sum of the subordinate monads is that which has at all times been called the relation of soul and body. Between *this* body and the soul there exists, then, according to Leibniz, certainly pre-established harmony.

The relation between the soul and the complex changeable body Leibniz adopted from Aristotle. It is the relation of *ἐνέργεια* and *ὕλη*, spontaneously operative form or Idea, and the material in which the Idea works. The relation of soul and inalienable proper body, on the other hand, Leibniz adopted from Spinoza, according to whom the one substance everywhere appears with the two inseparable attributes—Thought and Extension. Both relations coincide in a remarkable manner in the lowest, the atom-monads, and that too through the simple artifice of Nature, of referring all the efficient tendencies of such a monad to a point. Unfortunately Leibniz did not sufficiently separate these two meanings of body, tending to confusion, and has therefore been frequently misunderstood.

What is essential for us in the Leibnizian doctrine is the aggregation of several monads or individuals into a com-

pound which (as body) is subordinate to a monad or an individual of higher order (as soul). Had the results of modern physics, anatomy, physiology, been at the command of Leibniz, he would not have neglected to carry further his theory with respect to atoms, cells, and organisms; but as it was, it remained only a stroke of genius without the necessary empirical supports.—What, on the other hand, we can *not* accept is the artificial and unsatisfactory hypothesis of the pre-established harmony, by which all real happening is altogether abolished, and the world-process is disintegrated into an unrelated juxtaposition of separate trains of ideas in inactive isolated monads. If Leibniz expressly excludes all real influence of the monads on one another, yet the *influxus idealis* which he puts in place of the *influxus physicus* is an ill-chosen, because misleading expression. For undoubtedly, according to him, the content of the chain of ideas in each monad must at any given point of time correspond to the ideal chain of every other monad in a certain fashion, but this correspondence (chiming, harmony) is by no means said to result from this, that (say) the idea of a monad determines by an ideal influence the simultaneous idea of another (as one might indeed suppose from the wording *influxus idealis*), but from this, that the content of the flow of ideas has been predetermined or predestined from all eternity and for ever and ever for every monad, and is predestined, moreover, in such a way, that between the various trains of ideas there always exists a certain harmony. The harmony thus predetermined or pre-established is accordingly a sportive mechanism, which, moreover, is quite *aimless;* for if, for example, the various ideal currents had a velocity so different that harmony never took place between them, the monads would notice nought thereof, and would behave themselves just the same as in the contrary case. This theory, which abolishes all influence of the monads on one another, thus all causality, is consequently perfectly useless.

What further distinguishes us from Leibniz is the knowledge we have gained—firstly, that the organic individual of higher order *only subsists in* the particular unity of the individuals of lower order, and that the conscious individual altogether *only arises through* a reciprocal action of certain material parts of the organic individual with the Unconscious. It follows from this that the central monad or the central individual, neither in respect of the organism nor in respect of consciousness, is something standing *beyond* or *outside* the subordinate monads or individuals, but that if, in the higher individual, something else is contained in addition beyond the union of the inferior individuals, this can only be an *unconscious factor*. But in regard to this unconscious factor, which we have come to know as the regent in the organic and conscious life of the individual, the question may arise whether we have to do with a central monad *separate* for each individual, or whether the functions of the Unconscious proceed from a being identical and *common* for all individuals? Since, in conclusion, even Leibniz saw himself compelled to transform the unrelated coadjacency of his windowless monads into their coinherence, *i.e.*, to take up all monads into an *absolute* central monad, one may also put the question thus: Do the bundles of rays of unconscious psychical functions in the different individuals point *directly* to one and the same absolute centre, or do they in the first instance lead to different relative centres, and only *mediately* through these to the universal centre of the world? In this culminates the question with respect to the individuality of the Unconscious, after one has assured oneself in general of the unity of the Unconscious as such. In conformity with the importance of this problem we discuss it in a chapter of its own

VII.

THE ALL-ONENESS OF THE UNCONSCIOUS.

THAT to the Unconscious, as actively manifested in an organic and individual consciousness, there is not wanting strict unity, is probably at once evident We altogether know the Unconscious only by means of causality; it is just the cause of all those events in an organic and conscious individual which lead us to suppose a psychical and yet not conscious cause. All that we have found within this Unconscious of distinctions or parts is limited to the two moments Will and Idea, and of these we have also indeed again perceived the inseparable unity in the Unconscious. But in case some one should insist that Will and Idea are to be conceived as *different parts* of the one Unconscious, yet their *reciprocity* in the motivation of the Will through the Idea and arousing of the Idea by means of the interest of the Will would be quite unmistakable. What in the organism we were still compelled to apprehend as unity through mutual action of the parts is in the One cause of these events taken up into the unity of the end, to which these several activities of the one and another part are all posited only as common means. The unity of Time in the continuity of action is likewise present. The unity of Space can here, of course, be no longer spoken of, because we have to do with a non-spatial being; in the *effects*, however, it is just as much present as the unity of Time. Thus much, then, is settled, that the unity of the psychically Unconscious in the individual is the strictest one can find. It is, however, not

implied in this that there are unconsciously psychical individuals, for if the unity of the Unconscious were so strict that it undividedly embraced in itself all the unconsciously-psychical, wherever it might be operative in the world, there would be only *one* Unconscious, and not *several* Unconscious; then there would be also no longer individuals *in the* Unconscious, but the entire Unconscious would be as *one single* individual, without subordinate, co-ordinate, or super-ordinate individuals. Since also Matter and Consciousness are phenomenal forms of the Unconscious, this being would then be the all-embracing individual *which is all-being*, the absolute individual, or *the* individual κατ' ἐξοχήν.

In organisms we had no occasion to raise the question whether we then had actually *several* things and not *one* before us, because the spatial distinction of the form answered it by anticipation. In the case of consciousness we have answered the question, which could hardly be decided *à priori*, in conformity with internal experience, which teaches us that the consciousness of Peter and Paul, of brain and abdominal ganglia, are not one, but many and different. In the Unconscious, however, this question is robbed of half its force; since the essence of the Unconscious is non-spatial, and the inner experience of consciousness of course says nothing at all about the Unconscious. Nobody is *directly* aware of the unconscious *subject of his own consciousness*. Everybody knows it only as *the in itself unknown* psychical *cause* of his consciousness. What ground could he have for the assertion that this unknown cause of *his* consciousness is *another* than that of his *neighbour*, whose immediate knowledge is just as limited as his own? In a word, *immediate* inner or outer experience affords us no aid in deciding this important alternative, which accordingly is provisionally a perfectly open question. In such a case the maxim carries full authority that principles are not to be unnecessarily multiplied, and that in the absence of direct experience

the *simplest* assumptions are always to be entertained. According to this, the unity of the Unconscious would have to be supposed so long as the opponent of this simplest assumption had not satisfactorily relieved himself of the *onus probandi* incumbent upon him. But of this no attempt is yet known to us; for Herbart's proposition, "As much appearance, so much indication of existence," can manifestly only serve to prove the many-sidedness, but not the multiplicity of being, since, as is well known, one and the same being appears for the most part quite different according to different aspects. That the assumption of direct unity is really much simpler hardly needs special proof, since here there is only question of the relations of the actor to his activities, and of the reciprocal action of the activities of one and the same actor; whereas, on the opposite assumption, the relations of *different* actors to their activities, and, moreover, those of the actor and his activities *inter se*, are in question, the latter of which must either be acknowledged to be quite inexplicable, or be explained by the further perfectly inaccessible and incomprehensible relations of these many actors to the Absolute standing over them and including them.

Only because the one part of my brain has a direct communication with the other is the consciousness of the two parts unified (conf. C. Chap. iii. 5. pp. 113–118); and could we unite the brains of two human beings by a path of communication equivalent to the cerebral fibres, both would no longer have *two*, but *one* consciousness. Could a union of two consciousnesses into one, such as actually occurs, be at all possible if the Unconscious, from which consciousness is born as a sequel of natural stimulation, were not already in itself one?

The entire ant has one, the divided ant two consciousnesses; and if one sews together the halves of two different polyps (thus two previously divided consciousnesses), one polyp will result with a single consciousness. Wealth and poverty of consciousness can make no difference in

these inquiries involving matters of principle. As little as any one can deny, after the foregoing considerations, that he has as many (more or less separate) consciousnesses as he has nerve-centres, nay, even as he has vital cells, so much will every one rightly oppose the assertion that he has as many unconsciously acting souls as he has nerve-centres or cells. The unity of purpose in the organism, the right operation of each single part at the right moment, in short, the wonderful harmony of the organism, would be inexplicable, in fact, only comprehensible as *pre-established* harmony, unless the soul in the body were *one and indivisible*, acting, however, synchronously in all parts of the organism where its action is required,—unless it were one and the same soul which regulates here breathing, there excretion, which here in the brain conditions the brain-consciousness, there in the ganglia the ganglia-consciousness. If the cutting into shreds of the lower animals shows us that the same mind, which before governed the different parts in the whole animal and produced the different kinds of consciousness, continues also to be functional unaltered after division, can we then believe that the corporeal section may also have cleft the soul and divided it into two parts, can by division of a mere aggregate of atoms the non-spatial soul accidentally governing them be at all conceived as affected, save so far as the conditions of its activity are changed?

But if the soul in two artificially separated pieces of an animal is still one, must it not remain undivided also in the spontaneous throwing-off of buds, claws, &c.? and likewise in bisexual generation, where one hermaphrodite animal begets with itself (*e.g.*, tape-worm)? (See more particularly the ninth chapter.) If the unconscious soul in the separate portions of an insect, or in the stem and the detached buds, is still one, must it not be the same also in the insects separate by nature of a community of bees or ants, which even without union of the organisms in space still act as harmoniously on

one another as the several parts of the same organism? Should not the clairvoyance, which we have found everywhere recurring in the invasions of the Unconscious, and which is so supremely astonishing in the limited individual, should not it alone invite this solution, that the apparently individual acts of clairvoyance are simply announcements of the everywhere identical Unconscious, wherewith at once everything miraculous in clairvoyance disappears, since now the seer is also the soul of the seen? And if it is possible for the unconscious soul of an animal to be simultaneously present and purposively active in all organs and cells of the animal, why should not an unconscious world-soul be simultaneously present and purposively efficient in all organisms and atoms, since indeed the one as the other must be thought as unlocalised?

What opposes this conception is only the old prejudice that the *soul* is the *consciousness*; so long as one has not risen above this view and perfectly extirpated every obscure remnant of such a belief from his mind, so long must that all-unity of the Unconscious be certainly covered by a veil. Only when one has come to see that consciousness does not belong to the *essence*, but to the *phenomenon*, that thus the plurality of consciousness is only a *plurality of the appearance of the One*, only then will it be possible to emancipate oneself from the power of the practical instinct, which always cries "I, I," and to comprehend the essential unity of all corporeal and spiritual phenomenal individuals, which Spinoza apprehended in his mystical conception and declared the One Substance. It is no contradiction to the all-unity of the Unconscious that the individual self-feeling, which at first is present only as slight practical instinct, with growing elaboration of consciousness is ever more *heightened* and sharpened to *pure self-consciousness*, that thus the appearance indestructible for conscious thought of the individual egoity only emerges the more distinctly, the keener conscious thought becomes; this, I say,

is no contradiction to the Monism of the Unconscious, for all conscious thought remains indeed entangled in the conditions of consciousness, and can by its nature never be elevated above them in direct fashion, must rather be the more wrapt round by the deceptive veil of Maja, the more it displays its *proper* nature. The unity of the Unconscious may very well exist at the same time, of that namely, which never can come *into* consciousness, because it lies *behind* it, as the mirror can never mirror itself (at the most its own image in a second mirror). Certainly as long as one has not rigidly separated and explicated the Unconscious, so long that objection exists in full force, and so long can the idea of the all-unity not be rationally comprehended and approved, but only be mystically conceived, *in spite* of the opposition of consciousness.

Another point which is often made use of as cheap ridicule against Monism is the paradox that the One contends with itself as a self-parted being, that, *e.g.*, the One Existence is in conflict with itself, like two hungry wolves, each of whom endeavours to devour the other. Two problems are here intermingled: firstly, the problem of the sundering of the One into the many, and, secondly, the question how the Many, if they are indeed only realisations or objectifications or phenomena of the One can turn against one another in strife and discord. The first problem, that of individuation, will be treated of in a special chapter (C. Chap. xi.), and only under the presupposition that this will be solved in a satisfactory manner is there any sense in occupying ourselves with the second question. Here I shall only say this much, that a self-disunion would only be incomprehensible if the One surrendered its unity (and with it a piece of its essence); that, on the contrary, a self-disunion into a secondary (because phenomenal) plurality, in which unity is preserved in plurality, just brings multiplicity into the abstract unity, or, more accurately expressed, that a

sundering of the One into plurality cannot be objectionable, if thereby be meant not a splitting of the one substance into many isolated *substances*, but manifestations of the one existing and abiding being in a plurality of *functions.* But if this plurality of different functions is once given, then, in consequence of the circumstance that they are functions of one being, the ideal difference of their content must necessarily exert an ideal influence on one another striving after equilibrium, which ideal compromise, however, becomes a real conflict through this, that the ideal moments compromising one another are at the same time contents of real acts of will. It is thus altogether the same process that takes place in the consciousness of the individual as a struggle between different efforts, desires, and passions; just as a contest is possible here notwithstanding the unity of the mind, whose functions are the intersecting desires, so also in the all-one Unconscious. The struggle of two passions in a human mind in fury and destructive mercilessness need not in truth shun comparison with the struggle of two hungry wolves. The only difference is this, that what takes place in the subjective field within an individual is withdrawn from the direct observation of another, whereas the struggle of different individualised acts of will of the Unconscious hereby possesses an objective phenomenal reality, that the individuals engaged in conflict directly sensuously affect one another and other unconcerned individuals.

If, on the other hand, the question is proposed in these terms, "Why must the several functions of the One Being be so constituted that they collide with, instead of running undisturbed beside, one another?" the answer is to be sought in C. Chap. iii.: "Without collision of different acts of will no consciousness,"—and consciousness it is that is in point.

Hitherto we have shown, on the one hand, that there is and can be no reason which tells *against* the unity of consciousness, and have, on the other hand, adduced various

a posteriori grounds of probability for the same. We can, however, also settle the question directly by *deduction* from already established presuppositions, thus *a priori* in the Aristotelian sense of the word.

The Unconscious is not confined to space, for *it first posits* space (the idea the ideal, the will by realisation of the idea the real). The Unconscious is thus neither great nor small, neither here nor there, neither in the finite nor in the infinite, neither in the figure nor in the point, neither anywhere nor nowhere. Hence it follows that the Unconscious can have no difference of a spatial nature in it, save so far as it posits the same in imaging and acting. We are accordingly not permitted to say: that which acts in an atom of Sirius *is* something else than that which acts in an atom of the earth, but only: *it acts in a different manner*, namely, locally different. We have two effects without the right to suppose two beings for these effects; for the difference of the effects only allows us to conclude to a difference of the functions in the being; the difference of two functions, however, by no means to the non-identity of the functioning being. We must reiterate: we are compelled to stop short at the *simplest* assumption (the identity of the functioning essence) until the opponents have furnished proof of non-identity; on them, not on us, lies the burden of proof, since they suppose many, we only one. At any rate, this much has been strictly demonstrated by us, that no plurality of its essence can appertain to the Unconscious *by means of space-determinations*, simply because no space-determinations appertain to it. In temporal differences this is much clearer still, since we are indeed thus accustomed to acknowledge the identity of the continuously acting being despite all temporal difference, in spite of the earlier or later occurrence of the effects. But now there are, objectively speaking, none other than spatial differences; for what we else know as differences, the difference of ideas *inter se* and the difference of willing and thinking, are internal subjective differences

of different activities of the same essence or subject, but not a difference of different essences or subjects. Of the difference of different ideas *inter se* this is at once clear, but it also holds good of the difference of the two fundamental activities willing and thinking, pervading all individuals of the realm of nature, for the Unconscious is one in willing as in conceiving, only that it here wills and there thinks; it is related to those activities as Spinoza's substance to its attributes. (More in detail in C. Chap. xiv. 4.) All distinction known to us between existing things turns upon spatial and temporal determinations. Space and time are the sole *principium individuationis* known to us. To assert with Schopenhauer that they are the only *possible principium individuationis* would be to assert too much, for there might be worlds in which other forms of existence than space and time obtain. But apart from this, that the burden of proof of the existence of such falls on the shoulders of opponents, and until the impossible production of this proof we have not to trouble ourselves about such empty possibilities, yet even such forms of existence in their particular worlds, just as space and time with us, would only have phenomenal existence, *i.e.*, it could be shown that they can just as little be determinations of the Unconscious as space and time with us, and they would accordingly be just as unsuitable as these would be for establishing a plurality of essence in the Unconscious. If, then, the Unconscious can be burdened with a plurality of being neither by spatial nor other differentiæ, it must just be a *simple unity*.

We may further add an indirect proof to this direct one from admitted presuppositions. Suppose the case, namely, that the phenomenal separation of individuals did not rest merely on a plurality of functions of the existence underlying them, but on a non-identity of the essence, on a plurality of existing substances, no real relations would be possible among the individuals as they in fact exist. This is one of the greatest achievements of the great

Leibniz, that in spite of its extremely fatal (and for his system even ruinous) consequences, he admitted this proposition honourably and candidly. Herbart occupies here a far inferior position, for after having made from the plurality of appearance the false inference to the plurality (instead of the many-sidedness) of existence, he posits the mutual disturbances of these many existences (simple reals) as something self-evident, instead of, like Leibniz, conceding it to be something impossible. Whoever once recognises several substances (*i.e.*, several beings, each of which is self-subsistent, and would continue to subsist even if everything else round about were suddenly to cease to exist), must also confess that these monads can not only have no windows through which an *influxus idealis* could shine, but also that there is no possibility of seeing how entities, which participate in nought and have nothing in common, should be able to come into any metaphysical contact whatsoever. Each individual must rather represent an isolated world for itself. If one tried to suppose a metaphysical bond, to which would fall the part of a mediator, the difficulty to resolve would be, how this newly added substance should be able to enter into real relation with each of the existing substances. For if one tried to imagine this tie somewhat as a function of the Absolute or as the Absolute itself, it is to be remarked, on the contrary (apart from the circumstance that in *many* substances the discussion, strictly speaking, cannot be of One Absolute, but only of as many absolutes as substances), that a real relation between a so-called Absolute and one of several substances only appears less incomprehensible than the relation between two of the many substances, because fancy is more readily inclined to ascribe to the so-called Absolute the power of incomprehensible achievements. The influence of the Absolute on the many only, however, becomes comprehensible if the so-called Absolute is converted from a substance actually limited by the many into an unlimited, genuinely all-em-

bracing substance, which thus contains the many as integral parts of itself. But then, in truth, the many are denuded of their independence and substantiality, and degraded to sublated moments of the one absolute. This step, which again in the last resort dissolves the intended Pluralism into Monism, both Leibniz in the all-embracing central monad, as well as Herbart in the credited god-creator, saw themselves necessitated to take, without however recognising the incompatibility of this change with the retention of the foundations of their systems, and without employing this step for the explanation of the *influxus physicus*, or the causality of the monads among themselves, which must necessarily miscarry without it, but results in a perfectly unforced manner from the essential identity of the many in the One.

Although Pluralism is not able to maintain itself in its proper form as soon as it realises its own consequences, it yet tries to maintain itself in the illusory light of consciousness in a more modest form as it were *within* a reluctantly admitted Monism. The inherently contradictory conception of *derived substance* is especially employed for this purpose. Substance is that which is *in itself* (not in another) and subsists *through itself* (without the aid of another); the derived substance, however, is said not to be in itself, but in the absolute substance, and not to subsist through itself, but only through the absolute substance. Derived substance thus evinces itself as not-substance; it evinces itself as particular mode and manner (*modus*) of the manifestation of the Absolute, or, as we now say, as *phenomenon*. Now Pluralism further tries to at least raise the phenomenon of the individual mind to a higher category of phenomena, or to lower the rest of phenomena one degree, as if they were mediate results of that phenomenon. This is, however, so incorrect, that in a certain sense the contrary is true, so far, namely, as the individual mind results on the one side only from the material phenomena. The light

radiating from the unconscious central sun strikes upon the concave mirror of organisms, and is reflected and united in the focus of the self-conscious mind. In this way arise the separate centres of the individual conscious minds, but with these the absolute centre does not communicate directly, but only by means of the unconscious rays (functions) affecting the organism (the brain), which are reflected from this to the focus of consciousness. None of those functions which are ascribed to the unconscious rule of the organism proceed from *these* separate centres; if there is in respect of the latter a separate centre still to be assumed for every individual, there must be a *second beside* that first one; in this second one then we must imagine the functional rays issuing from the absolute centre to be bent or broken. How such a refraction is to take place in such an imaginary centre would be here quite unintelligible, whilst reflection on the organism or its organ of consciousness is a perfectly intelligible image. Through the accumulated difficulties of these separate centres, however, the explanation of the facts would not be in the least assisted, *i.e.*, these mathematical points of refraction of the function-rays of the absolute centre, not to be conceived as substantial but ideal, form a *merely embarrassing and uselessly* interpolated hypothesis.

However we may try to save for the individuals a reality and independence exceeding that of simple phenomenality, it is love's labour lost if intended to favour the unphilosophical partiality of the consciousness doting upon its own ego. As all plurality of individuation belongs to the sphere of phenomenality, everything placed beyond phenomenality also falls outside the plurality of the individuals into the all-one Unconscious and its *direct* activity. Only in this way has the absolute central monad of Leibniz the power to strip off the contradiction which clings to it, namely, by identifying itself again with Spinoza's One substance, in which the many individuals or monads are reduced to dependent phenomenal forms or *modes.*

This going back of Leibniz on Spinoza is, however, as little a retrogression as the falling back of modern physical science: in both cases, through the progress of experience and induction, one is enabled to comprehend and to prove *a posteriori* the mystical conceptions of genius of an elder mind. Such a falling back upon great predecessors is thus a genuine progress and a permanent gain, for it may be allowed me once more to mention that the course of philosophy is the transformation of the mystical conceptions of genius into rational cognition. (Conf. B. Chap. ix.)

Wherever we may look among the original philosophical or religious systems of the first rank, everywhere do we meet with the tendency to Monism, and it is only stars of second or third magnitude which find satisfaction in an external dualism or still greater division. Even in declared polytheistic religions, as the Greek and the different Northern mythologies, one perceives this tendency to Monism, both in the oldest conceptions, and in the later modes of feeling of deeper religious minds; and even in the more philosophical ways of thinking of Christian Monism, the world is only a phenomenon posited by God, which has only continuance (subsistence) so long as it is preserved, *i.e.*, is being continually renewed. All systems tending to Monism have not succeeded in really reaching it, yet one feels the unmistakable need of a unitarian world-conception, and only the shallowest religions and philosophical systems have rested contented with an external dualism (*e.g.*, Ormuzd and Ahriman, God and World, World-Orderer and Chaos, Force and Matter, &c.), or any sort of plurality. There is no conception which the impressionable mystic mind more readily adopts than this—to apprehend the world as an indivisible Being, to feel oneself as part of this Being, but a part in which, at the same time, indwells the whole, and penetrated by this contrast to indulge the religious feeling of the sublimity of this vast Being and the sense of the ego's participation therein. Owing to Christianity this one existence has

been called in the Teutonic languages God, and the view which asserts that this one existence is the all or the whole has been accordingly entitled Pantheism (in the widest sense of the term). Rightly understood, one may certainly let the word pass. I prefer, however, on account of the misunderstandings to which it is exposed, the synonymous term Monism, according to our explanation of Pantheism. Orthodox Catholicism and shallow rationalistic Protestantism, both of which thought to exalt God while they lowered him (attributing to him human passions), have undoubtedly always condemned and burnt as heretics the deeper minds in the Christian Church who perceived and declared the need of this Monism (*e.g.*, Eckhard, Giordano Bruno), but out of all such persecutions the tendency to the monistic purifying of Christianity has always emerged in greater strength, and has been ever gaining in influence over discerning minds. Schelling says: "That in God alone is being, and therefore *all* being is only the being of God; this thought neither reason nor feeling can take away. It is the thought to which alone all hearts beat" (Werke, Abth. ii. vol. ii. p. 39); and "That everything is from God has been at all times felt, as it were; nay, one may say: just this is the true primitive feeling of humanity" (Werke, Abth. ii. vol. iii. p. 280). This mystic primitive feeling of mankind in the form of a tendency to Monism often indeed only realised in an extremely defective manner, but with the exception of the sceptics always perceptible, runs like a red streak through all philosophy from the oldest Indian traditions down to the present day. Since a survey, however hurried, of the whole period would be impracticable with our space, I limit myself to sketching with a few strokes the most recent epoch in this respect.

The being which underlies the appearance of the object of perception was called by Kant the "thing of itself." It is remarkable that Kant never drew from his doctrine

that space and time do not belong to the thing of itself, but only to its appearance, the rather obvious conclusion that there cannot be things of themselves, but only *thing of itself* in the singular, since all plurality only arises through space and time. On the other hand, he himself (Kant, Werke, ii. 288, 289, and 303) made the remark, that the thing of itself and the intelligible underlying the empirical ego could hardly be one and the same existence, since between the two there positively could be no further difference specified. This is one of the touches where the involuntary tendency of great minds towards Monism cannot be denied. That Kant, nevertheless, was so timid in his inferences lay in this, that he formed the *commencement* of the modern epoch of philosophy, an epoch in which the work formerly concentrated on one or two men of genius had to be distributed over the shoulders of several, because this work became the more difficult the more often the old problems re-emerged in novel and sharper form, and the more the circuit of knowledge and of experience expanded.

What Kant entertained as timid supposition, that the thing of itself and the active subject might be one and the same existence, Schopenhauer declared as catgorical assertion, in that he recognised the will as the positive character of this essence. (Comp. my "Gesammelte philos. Abhandlungen," No. iii.) It has already been mentioned above (i. 29, 30, and 120), that Schopenhauer's Will altogether comports itself as if it were united with perception, without Schopenhauer admitting it.

Fichte mistook the truth of the Kantian hint. He denies to the appearance of the thing all existence independent of the perceiving subject, and turns it into a phenomenon entirely posited by the perceiving subject. Thus the thing of itself loses its immediate essential being in the Ego. Only what exists in the form of an ego has with Fichte being, and dead Nature, so far as it does not enter into this form, remains a phenomenon

purely subjective, *i.e.*, merely posited by the subject. But Fichte also was compelled to bend in his own fashion to Monism; the Ego is denuded of the accidental character of this or that limited empirical ego, being raised to the Absolute Ego. The Absolute Ego is the existence which alone *is* all the different, accidental, empirical limited egos, for the Being which is developed in the process of the Absolute Ego is the same which produces this process in its accidental empirical limitation; so that herewith the many egos also again became lowered only to phenomena of the One Absolute.

Schelling tries in his Transcendental Idealism to deduce the wealth of the external world, with its manifold determinations which had shrunk with Fichte into the bald abstraction of the non-ego, from the activity of the ego. But while he explains the agreement of the intuitions of the various limited egos from the equally strongly emphasised unity of the infinite intelligence or of the Absolute Ego in the finite intelligences or limited egos, the standpoint of transcendental idealism necessarily leads him to the Natural Philosophy, where, without reference to the limited ego's, he undertakes to directly deduce the extramundane determinations from the absolute ego or pure subject, and here, among other natural determinations, of course, also lights upon the mind and its products. In both systems he proceeds from the identity of subject and object; only this absolute subject-object makes its appearance at one time more from the subjective, at another time more from the objective side.

The method hereby employed of the pure subject gradually positing itself as object, which withdraws from all objectification into its gradually enhanced subjectivity, led Hegel to his dialectical method.

"The method is only the movement of the concept itself, but with the significance that the *concept* is *all*, and its movement the universal absolute activity."

Hegel perceived that the deduction of Schelling has

either no value at all, or a purely logical value as process in the realm of thought, but he claimed that his logic built upon this is at the same time ontology; that the *concept is all, i.e., sole substance* and *sole absolute subject*, and that the world-process is pure dialectical self-movement of the concept; that thus there remains no room for the existence of a strictly non-logical, *i.e.*, alogical (not anti-logical); for in his imposing compact system the world was exhausted with the concept raised to the absolute Idea, with the absolute Idea sundered in nature and returned to itself in the spirit. (Comp. my "Ges. phil. Abhandl," No. ii.)

Schelling in his *last* system (comp. "Schelling's Positive Philosophie als Einheit von Hegel und Schopenhauer," Berlin, O. Löwenstein, 1869, especially the second and third sections) maintained the negativity, *i.e.*, purely logical or purely rational constitution, of the Hegelian philosophy; he thus denied that it can say *what* and how it is, and only allowed that it can say, If somewhat is, it must be *thus*. He declared that, in the Hegelian and all the philosophies preceding it there can only be question of an *eternal* happening. "An eternal event is, however, no event. Consequently, the whole idea of that process and that movement is self-illusory; properly speaking, nothing has happened; everything has only taken place in thoughts, and this whole movement was only a movement of thought" (Werke, i. 10, pp. 124–125).

He declares *existence* to be the genuinely *super-rational*, which, as actuality, can now and never be in the reason, but only in *experience* (Werke, ii. 3, p. 69), and in this respect calls nature and experience that which is foreign to the reason (ibid., p. 70). If the absolute or highest Idea has no real value, if it is no longer anything more than bare Idea, if it is not the actually existing (ii. 3, p. 150), even this Idea could never be Thought if it were not thought of a thinking subject (i. 10, p. 132). One must then in a twofold respect go beyond the Idea as such to a being beyond and independent of thought, to

something anticipating all thought (ii. 3, p. 164), to an *immemorial* existence. As long as we speak of the standpoint of the purely rational or negative philosophy of the existing, we properly speak of the same only according to its essence or its conception; more cannot be obtained *a priori;* the question, however, with which positive philosophy begins runs according to that: *what* (grammatical subject) *is the existing* (grammatical object)? Or, as Schelling also expresses himself, what *makes* the thing *be* or "becomes cause of being (*αἰτία τοῦ εἶναι*) to this which is not being (*μὴ ὄν*), mere all-potentiality?" "The One is known hereby or herein that it is the Universal Being, the *πᾶν*, the being according to content (not efficient being). It is therewith cognised and distinguished from other simple existences, as *the* single existence *which is all*" (ii. 3, p. 174).

If the passage from the Transcendental Idealism already cited in the Introduction (i. p. 25) be compared with this, it will be found that Schelling in his first system conceived under the name "eternally unconscious" essentially that which he raised in his third system to be the foundation of his Positive philosophy.

Thus we have seen in all philosophies of the modern epoch this tendency to Monism more or less perfectly realised in one fashion or another. What in the historic evolution is exhibited as the culminating point of the speculative work of modern times, the "individual which is all being" of Schelling, that we have evolved *a posteriori* by the inductive path, or rather involuntarily gained as it were, but now no longer as a speculative principle accessible only to few, but with the perfectly valid proof of its empirical authorization. By carefully separating the sphere of the Unconscious from that of consciousness, and recognising consciousness as a mere phenomenon of the Unconscious (C. Chap. iii.), the contradictions were resolved in which the natural consciousness was entangled and caught in its endeavour after a monistic view. But not merely con-

sciousness, but also matter had proved to be a mere appearance of the Unconscious, and everything in the world which is not exhausted by the conceptions Matter and Consciousness, as organic formation, the instincts, &c., had been revealed (in Sections A. and B.) as the most immediately and easily cognisable effects of the Unconscious.

Herewith were (1) Matter, (2) Consciousness, and (3) Organic formation, Instinct, &c., comprehended as three modes of action or modes of appearance of the Unconscious, and the latter as the *essence* of the world. Lastly, after we had penetrated with the understanding the conception of individuality on the one hand, and the proper nature of the Unconscious on the other, so far as requisite, the ultimate reason for the assumption of a plurality of being in the Unconscious disappeared beneath our hands; all plurality henceforth only belonged to the phenomenon, not to the essence which posits the former, but this is the One Absolute Individual, the single existence, *which is All*, whereas the world with its glory is reduced to the bare phenomenon; but not to a subjectively posited phenomenon, as in Kant, Fichte, and Schopenhauer, but to an objectively (as Schelling, Werke, ii. 3, p. 280, says: "divinely") posited phenomenon, or, as Hegel expresses it (Werke, vi. p. 97), to the "mere phenomenon, not only *for us*, but *of itself*."[1] What appears to us as matter

[1] This objectively posited phenomenal world, or this world of the appearance in itself, is the indispensable causal link between the monistic essence on the one hand, and the subjective phenomenal mental-picture worlds of the many different consciousnesses on the other; whilst it is related to the sole Unconscious as the appearance to the substance, it is related to its subjective reflected images in the numerous conscious individuals as the thing of itself to its (subjective) phenomenon. Subjective Idealism commits the error of ignoring the indispensableness of this connecting link, and of trying to recede from the subjective phenomena of consciousness directly to the ultimate being, instead of acknowledging *one* objectively existing (in Kantian terminology, transcendent) world of things (according to Kant, things of themselves) as *archetype* of these *many* subjective worlds of perception, which certainly, referred to the sole existence, appears indeed only as "the living garment of Deity." As Kant in his old age and his school tried to repair this subjective error of his "Kritik d. r.

"is the mere expression of an equilibrium of opposite activities" (Schelling's Werke, i. 3, p. 400), what appears to us as consciousness is likewise a mere expression of a conflict of opposite activities. That piece of matter yonder is a conglomerate of atomic forces, *i.e.*, of fiats of the Unconscious, to attract from this point of space in this intensity, to repel from that point in that intensity. Let the Unconscious intermit these acts of will and annul them, at the same moment this piece of matter has ceased to exist; let the Unconscious will anew, and the matter is there again. Here the prodigy of

V.," so Schelling that of Fichte by setting up his Philosophy of Nature; so, finally, the aged Schopenhauer, and still more his disciples, through the recognition of a reality of the objectifications of the One Will, independent of the regarding conscious subject. (Comp what is said above, B. Chap. viii. vol. i. pp. 328–331.) On the side of the theory of Knowledge and of Metaphysics the stream of tendency is unmistakable towards the conception of the objective phenomenon; in it there is found the permanent kernel of the theistic conception of Creation and Preservation (comp. C. Chap. viii., also above, pp. 228 and 231), of the pantheistic conception of Emanation, the scientific conception of the "System of Dynamids" (comp. C. Chap. v.), of the Schelling-Schopenhauerian conception of the objectification of the Absolute Subject, *i.e.*, Will, of the Herbartian notion of the "Absolute Position," in contrast to the position merely relative to consciousness, *i.e.*, to the subjective position or phenomenon, in short everything is found in it that has ever been thought with regard to the relation of existence to its metaphysical ground. That the word "phenomenon" is here used in the *metaphysical* sense cannot be objected to on the score that the theory of Cognition has obtained possession of it since the rise of subjective Idealism; for the metaphysical signification was, till the time of Kant, the *prevailing one*, although it must be allowed that in the confusion between Metaphysics and theory of Cognition that special to the latter theory was likewise contained therein. After the complete separation of the problem of Metaphysics and theory of Knowledge, the word "phenomenon" also had to be differentiated (into "objective" and "subjective"), which is the more endurable, as different contrasts ("essence" and "thing of itself") are available for the two parts. It might be well, therefore, not to get rid of the word phenomenon also for the metaphysical relation, since much of that which Kant erroneously asserted of the subjective appearance actually holds good of the objective. This arises, however, from the circumstance, that with Kant Metaphysics was absorbed just as one-sidedly by the theory of Cognition, as before him for the most part the theory of Cognition was swallowed up by Metaphysics, or in other words, because he entirely carried over into subjectivity all the "what" of existence, and left nothing but the pure "that" for the *thing by itself*, so that it naturally became barer than the barest metaphysical *essence*, and a distinction between the two became an impossibility.

the creation of the material world is lost in the everyday marvel of its *preservation*, renewed every moment, which is a *continuous creation.* The world is only a continuous series of sums of peculiarly combined will-acts of the Unconscious, for it *is* only so long as it is *continuously posited* ; let the Unconscious cease to will the world, and this play of intersecting activities of the Unconscious ceases to be.

It is an illusion disappearing before thorough reflection, an illusion of the senses in the widest sense, when we think we have in the world, the NON-EGO, something directly real. It is an illusion of the egoistic instinct when we think we have in ourselves, in our ideal ego, something directly real. The WORLD consists only of a sum of activities or will-acts of the Unconscious, and the ego consists of another sum of activities or will-acts of the Unconscious. Only so far as the former activities intersect the latter does the world become *sensible* to me; only so far as the latter intersect the former do I become sensible to myself. In the sphere of the mental representation or pure Idea, the ideally opposed peacefully exist side by side, and for the most part form logical combinations calmly and without storms. Does, however, a will seize these ideal opposites and make them its content, then the will-acts filled with opposite content enter into opposition ; they pass into real conflict (comp. above, p. 228), in which they mutually resist and threaten to destroy one another, when either the one succeeds entirely or both partially, so that they compel one another to a compromise. Only in this conflict, the mutually offered resistance of the individually parted will-acts of the All-One, arises and consists that which we call *reality.* Not an inactive passive substratum, like the matter criticised in C. Chap. v., is presented, but only an *active* actual function can claim the predicate of *actuality.* This table, *e.g.*, testifies its actuality to me through the forces of repulsion which the ether-atoms of its superficial molecules, when

opposed to the superficial molecules of my body, exert in quickly increasing progression on approximation beyond a particular limit. This collision of the atomic wills constituting it with the atomic wills constituting my body is a part of the efficiency or actuality of the table, and the totality of its actuality consists in the sum of all the collisions which occur between the atomic wills constituting the table and all the other atoms of the world. If there were nothing in the world but this table, its reality would certainly be a far more limited one, but it would never be quite abolished, because the atomic wills constituting the table, if also no longer externally, yet always still among themselves, would come into active collision. If, however, one imagined all the atoms of the world save one suddenly annihilated, the actuality or reality of this one would be, in fact, thereby annihilated, since, owing to the want of an object of the manifestation of its force, it would be incapable of action, that is, of being actually manifested.

Let the Unconscious change the combination of activities or acts of will which constitute *me*, and I have become another; let the Unconscious intermit these activities, and I have ceased to be. *I* am a phenomenon, like the rainbow in the cloud. Like it, *I* am born of the coincidence of relations, become another in every second because these relations become other in every second, and shall dissolve when these relations are dissolved. What is *substance* in me is not *I*. In the same spot another rainbow may at some time or other stand, which perfectly resembles this one, but yet is not the same, for temporal continuity is wanting; so in my stead an ego perfectly resembling me may also at some time or other stand, but that will not be *me*. The *sun* alone is always shining, which is transiently reflected from yonder cloud; only the UNCONSCIOUS for ever rules, which is also mirrored in my brain.

The results indicated here in broad outlines will find in

Chapters ix. to xi. a varied application and development, which it is hoped will contribute to make them appear less repellent to readers previously confined to the way of thinking of the practical sensuous instinct; but first we will try still further to elucidate the results hitherto reached by comparing the All-one Unconscious with that God-conception, which our educated classes are wont to obtain from the school-Metaphysic of the religions disseminated in Europe.

VIII.

THE UNCONSCIOUS AND THE GOD OF THEISM.

THE question may very probably be asked at the present stage of our inquiry—Admitting that the actions of the All-One displayed in the individual are unconscious so far as the individual is concerned, what is the proof that they are not conscious in the All-One Existence itself? The simplest answer to this query consists in transferring the *onus probandi* to its propounder. It is not for me to prove that the unconscious physical functions which, as such, are sufficient for explanation, may not on the other side be conscious in the All-One; but those, who desire to make this, so far as the explanation of the phenomena is concerned, entirely valueless and gratuitous addition to the hypothesis, have to adduce the proof of their assumption, which until then must be regarded as pure assertion, and accordingly to be scientifically ignored. Although this would suffice for setting aside the foregoing objection, I shall nevertheless enter more fully into the matter, because the consideration of this point will contribute to the more exact comprehension of the Unconscious.

If hitherto Theism has usually eagerly insisted on assigning to God a consciousness of his own in the sphere of his divinity, this has happened for two reasons, both of which had their justification, but from which an illegitimate conclusion was drawn, because the possibility of an unconscious intelligence had never been conceived. These two grounds are,—*Firstly*, As regards man, repugnance to the thought, in default of a conscious God,

of being a *product of blind natural forces*, unintended, unwatched, purposeless and transient result of a fortuitous necessity. *Secondly*, As regards God, the fear of thinking this supreme existence, which, to honour to the utmost, it was deemed necessary in scholastic fashion to furnish with the sum of all conceivable perfections, to be destitute of that excellence which passes with the human mind for the highest, viz., clear consciousness and distinct self-consciousness. Both scruples, however, disappear before a correct estimation of the principles of the Unconscious, which hold the golden mean between a Theism constructed of the floating human ideal made absolute and a naturalism, in which the highest flowers of the mind and the eternal necessity of natural law, from which they have sprung, are mere result of a casual actuality, imposing to us on account of our impotence—the right mean between conscious teleology, which is conceived after the human prototype, and entire renunciation of final causes. This right mean just consists in the recognition of a final causality, which however is not represented according to the pattern of conscious human purposive activity by discursive reflection, but as immanent unconscious teleology of an intuitive unconscious intelligence is revealed in natural objects and individuals by means of the same activity which, in the last chapter, we described as continual creation or conservation, or as real phenomenon of the All-One Existence.

In our inability positively to apprehend the mode of perception of this intelligence (comp. above, p. 49), we are only able to indicate it through the contrast to our own form of perception (consciousness), thus only to characterise it by the *negative* predicate of *Unconsciousness*. But we know from the previous inquiries that the function of this unconscious intelligence is anything but blind, rather far-seeing, nay, even clairvoyant, although this seeing can never be aware of its own vision, but only of the world, and without the mirrors of the individual consciousnesses

can also not see the seeing eye. Of this unconscious clairvoyant intelligence we have come to perceive that in its infallible purposive activity, embracing out of time all ends and means in one, and always including all necessary data within its ken, it infinitely transcends the halting, stilted gait of the discursive reflection of consciousness, ever limited to a single point, dependent on sense-perception, memory, and inspirations of the Unconscious. We shall thus be compelled to designate this intelligence, which is superior to all consciousness, at once unconscious and *super*-conscious. With this recognition, however, the two preceding scruples with regard to the unconsciousness of the All-One disappear. If the latter possesses a superconscious intelligence, all-knowing and all-wise, with all its unconsciousness, which teleologically determines the *content* of creation and of the world-process, *we* stand here neither as accidental product of the forces of Nature, nor is God dwarfed by denying Him *this* mode of consciousness.

Accordingly the dread on the part of Theism of degrading its God by denying him consciousness appears so unfounded, that the danger is rather the contrary of degrading him by the predication of consciousness, since his mode of thinking is, in truth, *above* consciousness. That which is really an unconditional pre-eminence is *rational intelligence*, which our Unconscious possesses just as truly as the God of Theism, but that which is just the limitation in our human intelligence, the form of consciousness depending on the division of subject and object, of that Theism must too of necessity denude its deity, if it will make it its "most perfect of all" existences. Beyond question *for us men*, consciousness and self-consciousness are marks of superiority, but yet not, like rational intelligence, absolute marks, but only relative and conditioned, *i.e.*, they pass with us as prerogatives only because we stand within the world of *individuation and its limits*, and need for the greatest possible furtherance of our individual

aims, as sharp a severance as possible of our self from other persons and from the impersonal outer world,—considerations which, as a matter of course, fall away for the All-One Being, which has nothing outside itself. *In and by itself*, however, and *apart* from the special problems which arise through a position within the sphere of individuation for a limited intelligence, consciousness is *no excellence*, but in comparison with the unity of attributes in the Unconscious appears as a defect, as a disturbance in the absolute peace of the clairvoyant unreflecting intuition, as a rent in the harmony of the attributes of the All-One, which posits dissidence in the place of concord, and snatches out of their indifference and sunders subject and object, the moments reconciled and united in the absolute IDEA (comp. "Ges. phil. Abhandlg.," p. 64), through this disunion. The opposition of attributes for the genesis of consciousness, and the emergence of subject and object from indifference, is not at all possible within the self-sure and self-enclosed absolute Idea as such; it rather presupposes the splitting-up of the total function of the All-One into the plurality of individuation, and the crossing or the collision of the numerous tendencies of will which thus arise with their partially opposite content. Only by such conflict of the partial will with other partial wills, through the disagreement of the ideal content of the partial will with the compromise thrust upon it, does that shock become possible which causes the severance of subject and object in consciousness. (Comp. C. Chap. iii. 1.) This consciousness is based on a representation imposed on the mind by its body, *i.e.*, on *sense*, and attains a supersensible content only by discursive reflection through the medium of abstraction.

All these limitations must, as Theism itself acknowledges, be removed from its God; but thereby consciousness, which is dependent on these limitations, is itself abolished. If consciousness can only be described as limitation, the negation of this limitation can no longer be regarded

as positive defect in the All-One, since freedom from limitation is rather a sign of superiority. Nevertheless, the positive superiority in point of content is formally a defect, just as the absence of poison-glands in the boa-constrictor, which it does not need on account of its greater strength, or the absence of sin in the orthodox picture of Christ is a formal defect.—Already when, in C. Chap. ii., we arrived inductively at the conclusion that there is no consciousness without a brain, ganglia, protoplasm, or other material substratum, the hypothesis of a transcendent and indivisible consciousness of the world-soul was set aside, since the search after a material substratum making possible this unity of consciousness would be hopeless. By the investigations of C. Chap. iii. this knowledge instinctively arrived at was at the same time proved by way of pure speculation, since the metaphysical ground of the impossibility of a consciousness without individuation and without separation of body and mind was made evident. If the limits of sensibility and finite individuality are set aside, as the notion of God of itself demands, and the limited representation be expanded to the Absolute Idea, still the *pure matter of representation* remains, and by the removal of all finite opposition and collision we strip off also the form of consciousness. If one still, for one moment, tried to imagine the impossible demand satisfied, that consciousness should be, nevertheless, preserved as form of representation, yet this form also would have to be taken as infinitely elevated above the consciousness known to us, and it would then be at once apparent that the infinite form is equivalent to pure formlessness; that the *absolute consciousness* demanded for God must again prove to be identical with the *absolutely Unconscious;* so that thus even for this extreme standpoint, the phraseology being shown to be equivalent, every motive for opposing our absolutely Unconscious must perforce disappear. (Comp. Fichte's Collected Works, vol. i. pp. 100–253; vol. v. pp. 266 and 457).

Unquestionably, besides its value for the individual as such, consciousness has also in addition a universal significance for the redemption of the world, *i.e.*, for the conversion of the World-will and its return to the original condition before the commencement of the world-process (comp. below, C. Chap. xiv.); for this final purpose the All-One does in fact need consciousness, and accordingly it possesses the same,—namely, in the sum of individual consciousnesses, whose common subject it is.[1]

We have, namely, seen that the one Unconscious is, in fact, the support or subject of all individual consciousnesses, and that the individuals as such are only phenomenal combinations of an organism with the actions of the Unconscious directed to the same. He who accordingly *has, strictly speaking*, the consciousness of Peter and Paul, is not Peter and Paul, by which those phenomenal combinations are denoted, but the All-One Unconscious itself. Undoubtedly the consciousness which the Unconscious has in individuals is a more or less limited one, but any other is simply impossible. This consciousness always suffices to lead to the self-consciousness of the Absolute, namely, to the knowledge that the proper self of Peter and Paul is the All-One Existence.[2] That this self-consciousness

[1] With Spinoza, likewise, the infinite intellect of God (comp. Ethics, Part I. Proposition 31, Dem.), to be distinguished indeed from the attribute of the absolute thought, is only the sum of the infinitely numerous finite intellects, of which it is compounded as of its integral parts (Part V. Proposition 40, Obs.) Each of these infinitely numerous intellects is the Idea of a body or extended thing (2 Proposition 11 and 13), and by that not merely human intellects are to be understood, but the Ideas of all natural objects in general, which indeed are all more or less animated (2 Obs. 13), whose sum thus exhausts the ideal content of the universe.

[2] In Hegel also the Absolute Idea possesses no other self-consciousness than this. Much as Hegel insists that the Absolute is not merely substance, but also subject (of consciousness), yet it always becomes conscious, even according to his own doctrine, only in the limited individuals. From the erroneous presupposition that consciousness is a *necessary and eternal* moment in the Absolute, there logically follows for Hegel nothing more than the eternity of the process of Nature, thus the infinite duration of a world filled with things so highly organised, that the self-consciousness of the Absolute never dies out; but there by no means follows from that false premiss the persistence of a transcendent consciousness in the Absolute in itself.

of the Absolute in the individuals is a reflex one, again lies in the nature of self-consciousness, which is impossible except on the basis of reflection. Thus it would be shown to those, whose minds are disquieted by the denial of consciousness and self-consciousness to the All-One, that it really does possess such consciousness and self-consciousness as is compatible with the character of these conceptions, namely, limited consciousness and reflex self-consciousness, which certainly must not be sought in the limitless and unreflective All-One as such, but in it as subject of the individual consciousnesses, since only the functions of the All-One directed to a particular organism form a limited part of its total activity, and attain to reflection in the organ of consciousness of the organism.—

If we for a moment assume what is unthinkable, that the Absolute still possesses over and above the consciousness and self-consciousness which it has in individuals another peculiar to itself, we immediately see insoluble difficulties to arise in respect of the relation of this absolute self-consciousness to those of individuals. We formerly assumed, namely, relying on the presumed unconsciousness of the All-One, agreeably to experience, that consciousnesses which arise at separate places, *i.e.*, not sufficiently connected by nervous communications, are *separate* consciousnesses. This could, however, scarcely be maintained on the supposition of an absolute self-consciousness. Does such an absolute consciousness once exist in the subject of two individual consciousnesses, the required nervous communication appears to play a right pitiable and superfluous part beside such a metaphysical bond of union, whilst on the contrary its significance is at once evident if there is only an *unconscious* identical subject of the individual consciousnesses. If the functions of the All-One which the latter determines to the particular organisms are *unconscious* functions, they are sufficiently separated by their different goals not to allow of any confluence of the consciousness arising in organisms by way of reflec-

tion. If, on the other hand, they are conscious functions of a self-conscious being, they are related and connected by this consciousness to the higher unity of that self-consciousness, so that it is no longer at all comprehensible how these functions, after their reflection or turning round in the organs of consciousness, should be able to part into *two* consciousnesses, instead of enriching the one absolute consciousness with modified content. It accordingly becomes not only incomprehensible how the consciousnesses of Peter and Paul are *separate* consciousnesses, but how *altogether* a limited individual consciousness can arise without its matter and its form being immediately swallowed up and digested, bones and all, by the absolute consciousness, *i.e.*, annulled as individual consciousness. But still, supposing a limited disparate individual consciousness to have arisen, the functions of the All-One exercised through the same, in case they were conscious, would allow the absolute consciousness to shine, as it were, in upon the individual consciousness; for one would not be able to see how these functions should denude themselves of the form of the absolute consciousness once adhering to them, and indeed essentially connected with them according to the assumption of the Theists, on their entrance into the individual, and on the formation of his special consciousness. The individual must in all directions be refulgent with the light of the absolute consciousness, and the absolute consciousness lie open to its view. All these consequences, contradicted by experience, fall away when we reject the impossible supposition of the absolute consciousness in the All-One.

Monism can by no means endure any absolute conscious world-substance, and only the declension from Monism to the Pluralism of one creating and many created substances makes possible the anthropopathic assumption of a conscious God; truly also only at the cost of comprehension of the possibility of inner relations between the creature and its transcendent Creator, which can then at the best only

be conceived as the magical hocus-pocus of the possession of one personal mind by another.

A God whose reality only consists in his spirituality, and whose spirituality is manifested exclusively in the form of consciousness, undeniably becomes with distinct consciousness also a God *parted realiter from the world*, an external transcendent Creator. On the other hand, he who seeks and desires an *immanent* God, a God who descends into our breast and dwells therein, a God in whom we live and have our being, as every profounder religion must demand, and as Christianity and Judaism (Deut. vi. 4, xxx. 11; Isa. lxvi. 1) also actually demand, must make clear to himself that the All-One can only indwell in individuals if it is related to them as the essence to its phenomena, as the subject to its functions, without being parted therefrom by a consciousness of its own, or, in other words, that one and the same activity can only then be simultaneously and without collision of two consciousnesses activity of the individual and of the All-One, if the All-One diffuses itself as *impersonal* Will and *unconscious* Intelligence through the universe with its personal and conscious individuals. As God, by granting a personal consciousness, becomes parted from the world, with every action there inevitably arises the clear alternative, *either* activity of God *or* activity of the individual; a third, a combination of both activities without collision of the different conscious wills, would be only possible exceptionally and fortuitously, but not as a frequent occurrence or at all as general rule (comp. above, B. Chap. x. pp. 24–27).—

We have admitted that it is the Unconscious itself which attains consciousness in the organised individuals. It follows from this that the sufficient reason of its becoming conscious must be given in the Unconscious, or, more briefly, the Unconscious must be regarded as cause of consciousness. It would, however, be very vicious reasoning to try to draw the inference that Consciousness

must already inhere in the said Unconscious, else otherwise it could not come out of it. This conclusion would be just as incorrect as the conclusion often, in fact, drawn by savages and the uncultured, that the fire must always lurk *as* fire in the steel and flint, since otherwise it could not leap forth as sparks on their impact. This much only is correct, that there must be contained in the cause the sum of all the indispensable and sufficient conditions in order that the effect may emerge or result from them; but the requirement that the effect be already contained as such in the cause, *i.e.*, already in the form in which it appears as effect, is by no means coincident with this, for then the occurrence of the effect would be no change at all, thus also no causality, but only the becoming visible of a something long existent. We saw above that the arising of *individual* consciousnesses from an *absolute* consciousness can never be rendered intelligible; from an Unconscious, on the contrary, it is quite comprehensible, if only the Unconscious contains in itself all the conditions, which are requisite and sufficient in order to allow of consciousness resulting as form of otherwise given and determined Presentation or Sensation. As these conditions, however, we have in C. Chap. iii. recognised the duality of the attributes and the possibility of an opposition of the functions compounded of them, and these conditions we must accordingly necessarily presuppose in the Unconscious. Whoever regards the stated conditions as incorrectly defined will be obliged to suppose others in their stead in the Unconscious, although he may leave them also quite indefinite if he only guards himself from the error of setting up consciousness itself as the indispensable condition of the origin of consciousness,—an assertion which must be characterised as entirely devoid of foundation,—whereas the most cogent reasons for the contrary have been already partly discussed above, partly will soon come before us for discussion.

The above-mentioned objection would only acquire a cer-

tain tinge of justification if it appealed to this, that according to the teleological conception of the Philosophy of the Unconscious (comp. below, C. Chap. xiv. 3), consciousness does not proceed from the Unconscious as an accidental or causally-necessary, thus, at all events, blind result, but that it is teleologically posited by the Unconscious, *i.e.*, *intended* for the sake of a higher end, in which certainly the ideal anticipation is contained. It might then be supposed that this ideal anticipation of consciousness or the teleological forethinking of consciousness must itself represent a consciousness, and, moreover, a higher stage of consciousness. Apart, however, from the implicit form in which in the Unconscious the thinking of the end includes the thinking of the means, and conversely, the following is yet to be considered.

The thinking of consciousness only necessarily presupposes a higher consciousness, if consciousness is thought *as* consciousness, *i.e.*, in the *subjective* mode, as the *subject* of consciousness feels itself affected by its consciousness. But thus it is quite certain the Unconscious does not think its consciousness, since its thinking is altogether absolutely opposed to our *subjective* thinking, so that it would have to be designated objective thinking if this designation were not just as one-sided and accordingly inappropriate. We have already seen in C. Chap. i. that, with regard to the mode of ideation of the Unconscious, we can only make the assertion that it does *not* perceive as *we* perceive. If we then would positively say *what* exactly the Unconscious thinks when it employs consciousness as an intermediate end of a further final end, since subjectivity is excluded, nothing can remain, but firstly, the *objective process*, whose subjective phenomenon is consciousness; and, secondly, the *effect* of the emancipation of the Idea from the Will which results from this process (comp. above, C. Chap. iii. 1). Hereby the two fixed points are gained, which alone are concerned in the teleological forethinking of consciousness, namely, means and end, whilst the sub-

jective inner side of consciousness is accidental in a *teleological* reference, and is therefore not affected by the ideal anticipation of the event.

One might, however, put the objection in still more general form and say, *e.g.*, To posit ends means to provide for the future: how now can an Unconscious, *i.e.*, unconscious of itself as a present reality, be conscious of itself as future? Now I might of course appeal to this, that all this purposive activity is in respect to the merely negative ultimate end (the universal negation of the will) likewise only a negative one, thus only turns on this pivot, *to abolish* the *present* state (of the arisen world-Will), not to introduce a positive future one. However, the purposive activity on the one hand would always perceive the future state of privation as limitation of the present state which was to be annulled, and on the other hand the foregoing of the representation of the future state as goal of the process would little accord with the omniscient clairvoyance of the Unconscious, which we have everywhere found. This appeal, however, is not at all needed, since an error lurks in the inference of the objection.—In the sphere of individuation, namely, for the most part, only individual ends are pursued, individual states aimed at, *to the exclusion* of the participation of other individuals in the states aimed at; accordingly this exclusiveness of what is purposed naturally renders indispensable the sharp and clear discrimination of the substratum of the purposed state from other individuals. Otherwise is it in the sphere of the All-One Unconscious, where every distinction of different substrata of the purposed state, and likewise every exclusion of one in favour of another, ceases, because the phenomenal manifold does not reach into the sphere of the metaphysical existence (as we have seen in the preceding chapter). Here, one may say, state is *absolutely* state, *i.e.*, *all-embracing* state, beyond which at any time there is no state. If, then, in the sphere of the All-One Unconscious a future

state is purposed, it is purposed as absolute, *i.e.*, all-embracing state, which has nothing beyond itself, and regarding which therefore the question as to the *support* of the state, as a perfectly meaningless one so far as the purposive process is concerned, cannot at all be proposed in a rational fashion. It follows from this, that it is absurd to transfer the reflection of consciousness on the substratum of the purposed state to which we are accustomed from the inertia of habit also to the purposive activity of the Unconscious. For we already see in individual instincts that the individual takes care for its own future, without therefore knowing that it is its own future well-being for which it cares, and we see even in the race instincts that the individual exerts itself for *general* ends, thus for alien subjects, without any idea for whom it torments and sacrifices itself.

Only thus much then remains tenable in the above objection, that the Unconscious must know the condition to be negated, and which it can only know in that it finds, feels it in itself, since the condition is indeed not spontaneously posited by the unconscious Imagination itself, as all later intuitions; *i.e.*, there in fact results here, from the need of explanation of the purposive activity of the Unconscious, *a posteriori* the necessity of the assumption of a transcendent extramundane consciousness, which feels its own content as a state to be negated, *i.e.*, *as unblessedness or torment*,—an assumption the necessity of which we shall subsequently, in C. Chap. xv. 2, *a priori* perceive to be founded in the nature of the will and the laws of the origination of consciousness. Observe, *this single transcendent consciousness* of the All-One which we have hitherto found occasion to assume has not for content an idea or representation, but it has for sole content *the absolutely indefinite transcendent pain or unblessedness* of the void infinite will, which vague metaphysical discomfort forms, as the state to be negated, the necessary *starting-point* of the unconscious teleological activity, as that

which ought not to be the firm foundation of the world-process. The consciousness here allowed, which has arisen only through the mischievous elevation of the quiescent will into volition, and must again cease with the return of the will to its original state of self-enclosed peace (all this will be proved and elucidated in Chap. xv. C.), can obviously give Theism no occasion to triumph at the necessity of a consciousness in the Unconscious. The attempt, however, to deduce from the final purpose of the world-process a consciousness with richer content than that here specified turns out, at all events, a vain endeavour.

If we gather together once more our reflections on the question as to the consciousness of the All-One, there emerges the result that, besides the *notionless* consciousness of indefinite discomfort at the uplifted and unsatisfied world-will, the All-One only possesses a *limited* consciousness *in* conscious individuals, which, however, *suffices* it for the aims of the world-process, and that the peculiar mode or form of its all-knowing and all-wise intuition (absolute idea) is such of which, for lack of positive statements, we can only say this much, that it is elevated above that form which we know as consciousness, *i.e.*, that negatively defined it is unconscious, vaguely but positively defined superconscious. According to this we must declare the endeavour still to ascribe to the All-One an exclusively divine consciousness, conceived according to the analogy of the human, a not smaller anthropopathic error and degrading limitation of God than that of the biblical writings, when they ascribe to him anger, vengeance, and similar qualities measured by our own experiences. (Even pious Church Fathers like Augustine have been disquieted by such reflections on the consciousness of God.) If this holds good of consciousness in general, so much the more must we maintain it of the endeavour to posit in God as special content of such a consciousness *the idea of the All-One itself*, *i.e.*, to credit

him with a *self-consciousness* However, we shall have to examine this point a little more closely.—

The transcendent consciousness allowed by me has for its sole and only content absolutely indefinite pain, but no idea, least of all the idea of the All-One itself. The consciousness which the All-One has in its individuals has, it is true, for thousands of years been elevated by philosophic thinkers to the consciousness of the All-One itself, therefore to the self-consciousness of the All-One, but this is only an intra-mundane, not extra-mundane self-consciousness of the All-One, such as Theism requires. But we can at least negatively affirm this with confidence of the unconscious representation of the All-One or the Absolute Idea, that it has in the self-satisfaction of its own pure intuition just as little occasion for reflection in general as for a definite reflection on itself or on something else; not on anything else, since there exists nothing else besides itself; not on itself, since reflection on itself presupposes reflection on something else. But in the unity of the Absolute Idea the ground of the separation of subject and object is just that which is wanting, therefore also their appearance to one another, which constitutes consciousness, is also wanting, and in particular there is wanting the bending round of the ideational activity towards its origin, the turning back to the active subject as goal of representation, which retroversion of the activity of thought is precisely what is characteristic of the notion of self-consciousness as we have abstracted it from human self-consciousness. The Absolute Idea embraces all that is, for its ideal determinations become indeed as content of will those phenomena whose sum we call the world. The unconscious thought of substance accordingly exhausts the sum of all its modes, and so far as its whole proper nature is unfolded therein, itself as the sum of its unfolded moments (in its otherness),—but itself *only in this sense*, not in the proper acceptation of the notion of

self-consciousness, as active centre of emanation.[1] To grasp the latter retroversion or reflection is required, which takes place in the brains of individuals, whereby the intuitive character of the presentation is lost, but instead thereof the self-consciousness of the All-One *in the strict sense* is really *gained*—only of course not as extra-mundane, transcendent—and at the same time as one which, beside the notion of the All-One as active world-centre, embraces only a very small part of its phenomena, not, as the unconscious idea, its whole plenitude. As the light-sphere, consisting of light rays, illuminates the whole space, but not the point from which it issues, unless a reflection of its own beams takes place at reflecting surfaces, and thereby a turning back of the direction of these rays, so the intuitive ideal total activity of the All-One may cognise the All, only not the point whence it issues, the active centre of the All, unless certain bundles of these rays are broken in the brain of an organism into consciousness, which then, however, must of necessity be a one-sided, limited, no all-embracing absolute consciousness.

The previous considerations, in combination with the argument stated below derived from the evil of the world, seem sufficient to render evident the perfect untenability of a specifically divine consciousness and self-consciousness in the All-One. In this way of thinking we find ourselves in perfect accord with the views of modern German philosophy. Here, too, neither in Fichte's earlier doctrine, where the Absolute is represented by the unreal unsubstantial abstract moral world-order (Fichte's Werke,

[1] Only in this sense does Spinoza speak of a self-knowledge of God. The idea, which in God is actual, is ever unique, all-embracing (Ethics, Part ii. Prop. 4), which includes in itself all individual intellects as the ideas of the modes of extension (comp. above p. 250 Obs.) and the ideas of all these intellects, or the ideas of these ideas (Ethics, ii. Props. 20 and 21), *i.e.*, the pure forms of these ideas without regard to their extended objects (2 Prop. 21 Obs.), and, moreover, includes as posited with logical necessity. God as subject or *natura naturans* therefore does not know himself as subject of the cognitive activity or of the attribute of thought, but as object of the same, *i.e.*, as *natura naturata* (comp. 1 Prop. 29 Obs.)

v. 186, 187, 264, 368), nor in his later doctrine, where it stands as the eternally unchangeable veiled Being behind our consciousness which reveals it (Werke, v. 441, 442), nor in Schelling (comp. his Werke, i. 1, p. 180; i. 3, p. 497; i. 4, p. 256; i. 7, p. 53, 54, and 67, 68), nor in Hegel (which, to be sure, is denied by the reactionary part of the Hegelian school), nor in Schopenhauer does the Absolute possess a consciousness outside of the individuals pervaded by it (comp. also vol. i. pp. 23–31; Introductory i. c., the remarks on the philosophers named).—

After these conclusions concerning the consciousness and self-consciousness of God, we shall hardly expect a more favourable result in regard to the notion of *personality*, to which Theism is wont to attach so much importance as predicate of its God, that it is precisely in order to save it that it still insists so urgently on the untenable predicates of consciousness and self-consciousness, even after former scruples (comp. above, p. 245 ff.) against setting aside these anthropopathic predicates of God have been removed by the recognition of the unconscious-superconscious reflectionless-intuitive intelligence in the All-One. Nothing would stand in the way of the application of the notion personality, if its definition were limited to an individuality combined with will and intelligence,[1] and it was certain that no inadequate anthropopathic accessory notions were interpolated. But unfortunately the guarantee of this is so small, that, on the contrary, the predicate of personality has almost always been employed only with the intention of thereby smuggling in unsuitable ideas, which, however, are perhaps consoling to the heart. *In a jural sense*, the notion of personality rests on the criteria of civil independence; this conception has, of course, no sense in reference to

[1] Only in this sense is Schelling willing in his later "Philosophy of Revelation" to understand Theism as doctrine of the One tri-personal God (comp. his definition of personality: Werke, ii. 7, p. 281, and my memoir, "Schelling's Positive Philosophie," pp. 42, 43, Obs.)

God. *Ethically* the notion of personality implies the capacity of judging one's own actions and the moral responsibility conditioned by the same, but this transference of a relation, which is highly important between separate and opposed individuals, to the absolute all-embracing Individual appears inadmissible, because there are no individuals *beside* itself, but only *in* itself, and because even these latter are only manifestations of itself, *phenomena*, not substances, therefore cannot be co-ordinated with the substance, through which alone they are, as the notion of the ethical relation would require.[1]

[1] Those readers who have been accustomed to think the conception of freedom inseparably united with the ethical conception of personality are reminded: (1.) That freedom may be temporarily abolished along with accountability, without personality being thereby abolished. (2.) That this concept of freedom only contains a relation to the concept of personality when it is opposed to the freedom of individual assertion on the part of other individuals, but that then, for the before-mentioned reason, it is not transferable to the All-One, since the latter has nothing whatever to oppose itself to. (3.) That the notion of the freedom of human *will* rests altogether on an illusion (comp. the commencement of Chap. xi., sect. B.), and accountability does not rest on a quality of the will, but of the intellect, and, moreover of the discursive *intellect*, cannot therefore be applied to the All-One. If there were a human freedom, it could not be analogically transferred to the All-One; if it were transferable it would still import no trace of a notion of personality into the All-One; but if it were purified from amalgamation with this alien concept, there would finally be nothing ascribed to the All-One by this transference which does not already appertain to our Unconscious as such. The contrast of a foreign compulsion, which is necessary to give the notion of freedom its special content, is wanting here, but the Unconscious is undoubtedly absolutely free inasmuch as it derives all its decisions from itself, and can be affected by nothing external. It further actually possesses, according to our investigations, the ability only erroneously ascribed to man, to intervene at any moment spontaneously as cause in the lawfully given phenomenal series, which adds a new factor determining the process to the existing ones, and continually exercises this faculty in its teleological interpositions. Lastly, it shows itself, as we shall see in Chap. xv. C., before the decision, by which it certainly ties its own hands until the reintroduction of the *status quo ante*, as free to comport itself rationally or irrationally, *i.e.*, to remain in the place of non-volition or to elevate itself to Volition, *i.e.*, to the world-creation; man, on the contrary, even then acts *according to* the absolutely rational plan of the world, *i.e.*, rationally, where he imagines he is acting *counter* to the same. *i.e.*, irrationally. The All-One Unconscious accordingly possesses all *possible* freedom, and can by no means acquire any not yet possessed freedom in addition to the same through the erroneous assumption of a human freedom.

Ideologically the concept of personality consists in the existence of a consciousness with respect to the identity of the conscious subjects underlying all the temporally distinct acts of self-consciousness in the same consciousness (comp. p. 79), is thus the result of a tolerably complex *reflection* on a number of *reflective* acts of self-apprehension comprehended by *memory*. Since God in his absolute intuition is raised far above all reflection (even above that of simple self-consciousness, to say nothing of the reflection of the identity of the subjects of those acts of reflection), and as, moreover, such a reflection, in the absence of any existence from which he could distinguish himself, would be for him perfectly superfluous and tautological, the ideological concept of personality also can have no application to God, any more than the jural or ethical. The attempt, from religious considerations, to save the ideological personality of God at any price, necessarily leads by its consequences to the fantastic assumption of an eternal nature in God elevated above material temporal Nature and different from it (Jacob Böhme and Franz von Baader), in order to render possible an eternal process in God with self-discrimination and reintegration as his actual temporal nature makes possibly the temporal world-process, with the resulting separation of subject and object in the finite consciousnesses, which are indeed collectively consciousnesses of the All-One Existence. One sees from this how weak an hypothesis must be when its most important advocates confess themselves compelled, in order to maintain it, to have recourse to such artificial, fantastic, and wholly imaginary auxiliary hypotheses.

According to these considerations, it seems most suitable not to give to the notion of personality so wide a sense as is given in the above definition, in order thereby to make it applicable to God. There are many *individuals* endowed with *will* and *intelligence*, which do not on that account admit of the concept of personality (animals, low savages, idiots, &c.), and to which we therefore

refuse this designation. Why should we not exercise the same restraint with regard to an individual which no longer answers to that conception, because it is elevated above all the limitations which form the marks of the conception on its different sides? Here, too, the *degradation* of the Supreme Being does not lie on the side of those who refuse the predicate of personality, but on the part of those who *ascribe* it. Nay, looked at more closely, the lowering of God turns out to be *the secret purpose of the affair*, *i.e.*, one seeks in God a person (according to the human standard), in order by this kind of co-ordination of God with the ego seeking consolation from him to bring it about, that one may place oneself on intimate footing, as it were, with God, as with a revered equal, in order, on pouring out the heart before him, to make more sure of a humanly sympathising understanding of one's own emotion. Even the Christian apostles, with the growing purification of the God-idea, began to have an inkling of the unsuitableness of this childish behaviour, at which the naïve anthropopathic imagination of the older Judaism had taken no offence; and the more sublimely the God-concept shaped itself with the progressive development of Christian Theism through the contact with Hellenic philosophy, the more the religious soul in its intellectual confusion saw itself impelled to take refuge in a mediating human personality (Christ, subsequently the Virgin Mary and the saints). As the Reformation found itself compelled, after the abolition of prayer to the saints, to lay more stress upon the human personality of Christ than in Catholicism, so in consequence of the now disappearing Christ-belief, Theism is trying again to bring God himself nearer to man from his abstract remoteness by imparting more human features, and this is the most important reason for the emphasising of the personality of God, although incompatible with the idea of the same. But when one considers that, from the philosophical point of view, the practical nerve of prayer is

already paralysed by a purely subjective signification and activity being ascribed to it according to the modern view of the world, the value of the emotional postulate, contradicted by thought, appears also from this side more than doubtful. For when I have once perceived the illusory nature of belief in an objective meaning and efficacy of prayer, the nature of the object to which the prayer is conceived or addressed has become perfectly *indifferent*, since in truth we are here only dealing with a *monologue*, to which the possible jugglery of a conscious self-deception in respect of a feigned auditor can give no value. With this now-a-days unavoidable admission that the meaning of prayer is reduced to the value of a soliloquising soul-expectoration on self-rectitude (Schleiermacher,) *disappears*, even within the pale of Theism, *every practical motive of religion*, for hankering after the clothing of God with the predicate of personality in the proper sense of the term at the expense of good logic.

But with the renunciation of the predicate of *personality* disappears again, as remarked above, the practical religious interest in maintaining the personal divine *self-consciousness*, and with this the last interest in the assertion of an exclusive transcendent *consciousness* of the All-One. The practical religious interest being set aside which could not bring itself to abandon all these conceptions in spite of their long-proved untenability, the notional difficulties and philosophic proofs fully assert themselves, and *compel* that Theism, which endeavours to purify itself from the crude naturalness of an anthropopathic representation of God and to attain tenable metaphysical conceptions, to take the last necessary step in this process of purification and profounder thinking, from which it has hitherto recoiled from a mistaken religious motive. The result, however, which emerges in this last and now inevitable step of the self-purification of Theism, is the same as that which the Philosophy of the Unconscious on its own part

from quite another side brings to Theism, and the old supports of the latter have gradually become one after the other so rotten and crumbling that it should rejoice when another new one is offered it.

That all the attributes of the divine intelligence (all-knowledge, all-wisdom, all-presentness) are also applicable to the clairvoyant unconscious intuition of our All-One, will be more precisely shown at the beginning of Chap. xii. C., and we have already admitted the omnipotence of the Unconscious Absolute Will. When we add, that we have in the last chapter recognised the Unconscious as the Individual in a pre-eminent sense (p. 223 ff., and 240–243), and that the former claims of Theism to personality, self-consciousness, and consciousness of God in their previous sense have become untenable, but that all that is tenable in the same is actually satisfied by our Unconscious, it is clear that on this side a *difference in principle* between a Theism that rightly understands itself and the Philosophy of the Unconscious *cannot be found*.—

This might appear still more plain in another direction, namely, in reference to the relation of the individual to the All-One; but here too we shall see that a well-understood Theism must necessarily move away some steps from the vulgar conception, and then likewise coincides with our point of view. Theism namely is originally *dualism*, in that it ascribes just as much substantiality to the world as to God. It is true this dualism is one only existing since the creation of the world (conceived as in time), thus no regressively eternal one, but it is intended to be a forwards eternal one, in that the substance of the higher creature is also conceived as eternal. The dualism is therefore indeed only the result of the act of creation, but it is now in operation, and moreover determined not to disappear again. Such a dualism is, however, philosophically untenable, and irresistibly tends to relapse into Monism. We have in the last chapter (pp. 230–234)

seen that a seriously held dualism abolishes and reduces to Occasionalism or Pre-established Harmony—two equally untenable refuges from difficulty—the empirically given and *a priori* demanded causality of individuals among one another, and that causality as *influxus physicus* necessarily demands the taking up of individuals as phenomena into the one absolute substance. We can here reach the same result by a consideration of the notion of *creation*, which forms a distinguishing fundamental conception of Theism.—A consistent dualism must assume that the world fashioned as *substance* by the creative act would continue to subsist, even if the creator were suddenly annihilated; only on this condition would the world be a *permanent* residuum of a completed act of creation, only on this condition true and genuine substance. This consequence is, however, too strong even for Theism itself, and it therefore foregoes the regarding the world as a mere completed result of a single creative act; it lets its God permanently act the part of world-restorer or world-governor, as the world-architect of Greek dualism in presence of the chaos of the eternal uncreated matter. *For this matter*, however, and strictly taken also for the individual *immortal spirits* called into actuality, Theism tries to retain the notion of a *created substance*, a *caput mortuum* of a former long past creative act, which residuum, it is true, God has the power again to annihilate, if it seems good to him, but which *without* such a divine interposition would *of itself* be imperishable. However, Theism must soon perceive that it is here in presence of the same difficulty, of the same belittling of God, in that this residuum would then also continue to exist if God were *annihilated*, and that therewith an *independence* limiting God's absoluteness would have to be accorded it. This scruple could only be laid to rest if, on God's annihilation, continued subsistence were denied to the creature; the creature must collapse into nothingness, if the creator withdraws his hand from it even only for a moment; but this is only possible if continued existence

is conditioned by a *continuously* active function of God, *by an act of will renewed every moment.*

Such a conserving activity of God, which prevents the constantly threatened falling back of the creature into nothingness, is now, however, in no way different from the first creative act, which summoned the creature out of nothing; for both substitute for the non-existence of the creature its existence; *i.e.*, however, the conservation of the creation by God is to be more precisely defined as *continuous creation.* Herewith is the untenable notion of the *caput mortuum* of a past act of creation stripped off, no matter whether this past is reckoned at thousands of years or seconds, and the existence of the creation is in every moment understood as creative act *of the same* moment. Creation out of nothing, which was emphasised by the Jewish-Christian Theism in contrast to Greek dualism, in order to render prominent the absence of an eternal matter existing before God, is then to be understood in this way, that that wherefrom God creates is his own creative energy, that the whole real existence of the creature consists purely in the divine creative power directed to the same, and its whole essence at every moment purely consists in the content which the divine creative act of this moment pours into it.

About thus far has Theism progressed in the philosophical purification of its conceptions; it is, however, easy to see that herewith the notion of *substance* has ceased to be applicable to the creature, since it no longer has *subsistence* at all, save through the absolute divine substance. Thus *only the latter* manifesting itself in a continuous creative act of will is the subsistent or self-existent, but the creature itself and its existence is only the *manifestation* or the *revelation* of the functions of the Absolute directed to its constant creation or preservation, or, in brief, an *appearance*[1] of

[1] By this expression we must, of course, not in the remotest manner think of the "subjective appearance" of the theory of knowledge, which is the correlate to the conception of the "thing of itself" of the

the All-One Being. The real existence and the essence of the creature is hereby not at all impugned, since we have indeed already seen that what we call its reality only consists of the sum of the acts of will which are functional in it (comp. above, pp. 242, 243). The notion of creation is, however, through the setting aside of the conception of the created substance, resolved into that of the continuous *manifestation* of the absolute will and the absolute idea, *i.e.*, into that of the Appearance of the absolute Being. The individual who has penetrated to this conception thereby attains for his religious feeling the desired conviction that he at every moment owes to God, and to him alone, his whole being and all he is; that he is nothing at all but in him and through him, and that the being in him is God's being itself. Thus also dualism has disappeared from Theism, and by dealing in earnestness with pure Monism has, at the same time, gained for the ardently devotional religious feeling the consciousness of an intimacy of relation between God and man, which is not even remotely to be reached as long as man by the perverse self-contradictory notion of a created substance is opposed as a foreign, independent, self-contained personal substance to God, who may now solve the puzzle how to enter into the man separated substantially from him. The purely monistic view of the world is also alone capable of laying the metaphysical foundation of an ethic exempt from the interference of all sovereign individual caprice (comp. Schopenhauer), which could only attain general validity on the ground of a pluralistic individualistic ethics, if the conception of the divine revelation of a universally obligatory moral canon were tenable. That profounder intimacy of the relation of the individual to the Absolute and this better foundation of ethics, which Monism affords as compared with dualistic Theism, and for

same theory, whilst we have here to do with the notion of the divinely or objectively posited, or objective phenomenon, which is the correlate to the metaphysical conception of the "essence" (comp. above, p. 241).

the sake of which the mystical theosophists and theologians of the West have always shown a strong and decided inclination to Pantheism, the purely Aryan religions of India possessed long before the origin of Christianity; whilst, on the contrary, Christianity from its Semitic origin retained the dualism between creator and creation, at any rate in the orthodox doctrines of the chief confessions. Whilst, however, the pantheistic religions of India, entangled in the error of the eternity of the phenomenon and not acknowledging the real existence of time, were unable to elevate themselves to an historical world-theory, and therefore allowed their believers to be lost in dreams and perish in unhistorical Quietism, the Jewish-Christian Theism, on the contrary, has in compensation for its other defects developed an historical world-view, in which the all-wise providence on the basis of natural process guides the historical process according to a teleologically predetermined plan to a rational goal; from this belief in a rational historical evolution which has found ever clearer expression have the European nations derived the strength of their devotion to the historical process.

At the present time, when the more special forms of the Christian religion are manifestly outlived, and the faith in the providentially guided historical evolution has besides passed into the flesh and blood of modern civilisation, the essential question is how to liberate from the deciduous shell and to unite with the real substance of the pantheistic Indian religions this remaining kernel of Theism, in order through these ideas, which have grown purely out of the spirit of our Aryan stock, to gain a religious profundity and enhancement of the intensity of religious and ethical feeling, which would be a vivifying renewal of our irreligious age clinging convulsively to the mere externals of religion. That the old creed is no longer tenable, and is still only artificially and violently preserved as a mummy, is generally felt and admitted. But that by mere critical

negation nothing is directly gained, unless at the same time fresh elements of religious feeling are introduced, would be just as generally recognised if one did not frequently despair of discovering these new positive elements. If they are anywhere to be found, they lie in that genuine and imperishable core of pure Aryan Pantheism, which must be fused with the circuitously attained historical world-view of Judaism and Christianity, in order by this concrescence to reach a position that unites the advantages of both sides without their defects, and therefore stands higher than either of them singly. In this sense we may say: we stand directly before the time when the Jewish-Christian cosmic theory has only the choice *of dying entirely out or of becoming pantheistic.* The metaphysical foundation of this transformation, however, which was prepared by the pantheistic and mystical philosophies of the Middle Ages and the Reformation (Scotus Erigena, Martin Eckhart, Giordano Bruno, Jacob Böhme, Spinoza), has been philosophically laid and built on by the most recent German philosophers, whose partially authorised and valuable endeavours and tendencies have coalesced into a provisional unity in the principle of the Unconscious. Precisely in our own time, when the opposition between the unmediated extremes of a rigid *theistic dogmatism* and an *irreligious atheistic naturalism* is threatening to become more irreconcilable, the golden mean of a *spiritualistic Monism or Pantheism,* which supplies both parties with a bridge for mutual understanding and union on neutral soil, appears to be of the highest importance for the peaceful spiritual development of modern society.—

Having endeavoured to prove the evanescence of the main differences between the Unconscious and the God of Theism with the philosophical purification of Theism, a cardinal point must in conclusion not be left unmentioned. Theism, namely, asserts that the *existence* of the world is an *intended* consequence of God's goodness and omni-

science, and sees itself therefore driven in presence of *evil* to the necessity of attempting a *theodicy*, the impossibility of which had already been convincingly proved by Kant in a special treatise. We do not deal here with the optimism of those who, like Jewish Theism, find the whole world and the life in it wonderfully glorious, and hold evil to be evanescent as compared with the happiness which exists beside it; we also do not insist on the necessity of a theodicy in regard to moral evil, which for the rest indeed were indifferent, if it did not contribute to the increase of suffering; we only ask an account of that Theism which, like the Christian, grants the preponderating woe and misery in this world (comp. C. Chap. xiii.), and yet regards the resolution to create the world as an efflux of the divine all-knowledge and all-wisdom. The consolation of immortality is no help here, for also in the other world the number of the blessed will be very small compared with that of the torment of the suffering damned (Matt. vii. 13–14; xxii. 14). The only partially accepted doctrine of the future restoration of every creature at the end of all things is in itself too problematical to deserve consideration, and leaves open the question why the world must be miserable until then. As now it would never do to make God the author of evil, Theism sees itself compelled to seek the origin of evil outside God, *i.e.*, since save God only his creature exists, in the creature. A moral guilt of the first (?) human pair is said to have had the deterioration of nature for its natural consequence, so that God must now look on while milliards suffer for the trespass of a couple of individuals dead thousands of years ago, *i.e.*, guiltlessly; since, however, notwithstanding the connection between human fall and deterioration of Nature, between moral guilt and natural world misery, appeared all too bold, a superhuman creature must be introduced, a devil, who ruined and brought into disorder the fair creation of God. For a more childish time this theodicy, by means of the two scapegoats, Lucifer and

Adam, might be well enough; we only smile now at such fancies. We repudiate, however, at the same time, in principle, every attempt to disburden God of the responsibility for the world-misery by shifting the same on to any of his creatures whatsoever, since, in the first place, such an independence of the creature crossing the intentions of God is, according to our foregoing discussion, not conceivable; and since, secondly, an all-knowing and all-wise God must, at the moment of creation, foresee and take account of the voluntary decisions of his creatures under all circumstances, and all the indirect consequences of their action as terms of the question, whether it would be wise to create a world with such a history.

It is to be noticed that it is quite immaterial, and does not at all affect the serious nature of the responsibility, whether the intelligence of God, which is active in this resolve to create a world, is assumed to be *conscious or unconscious.* Were the divine intelligence at all concerned in the decision whether a world should be created or not, the actual result of this decision in the case of affirmation would be an inexcusable cruelty towards the created substances on the assumption of dualistic Theism, but, on the assumption of Monism, the frenzy of a divine asceticism, a divine self-laceration. If an absolute intelligence (no matter whether conscious or unconscious) really be one of the attributes of God, as indeed we too assume, it is, in view of the misery of the world, *impossible* that it can have taken part in the decision in question, thus impossible that it was active and efficient during the exaltation of the will which decided on the "That" of the world. Only if the existence of the world was decided by the act of a *blind* will illuminated by no ray of rational intelligence, only then is this existence comprehensible; only then is God as such not to be made *responsible* for the same. Such a non-participation of intelligence in the world's origin, however, cannot be explained by Theism in any of its forms; it must maintain it to be simply impossible on the as-

sumption of an eternal interior spiritual life of a self-conscious God. With our principles, however, it is perfectly comprehensible, nay, even not otherwise to be expected *a priori*, because, namely (according to C. Chap. i.), the Idea of itself has no interest in being, and can only be posited by the raising of the will out of non-being into being, thus neither before nor during the elevation of the will is existent, but only becomes so through the same. Suppose then the elevation of the blind will into actual volition (*i.e.*, the moment of the initiative preceding every actual intelligence in the All-One) sufficed, as we shall hereafter see, to posit the "That" of the world, it would thereby be explained how, despite the omniscience of God (*during* the world-process), the unfortunate *commencement* could have come to pass.

But now arises a *second* question: Why did not God in the first moment when he became *seeing*, *i.e.*, his all-wise intelligence entered into being, *repair* the error *blindly committed*, and turn his will against himself? Incomprehensible and unpardonable as the first commencement would be without the hypothesis of a blind action, no less incomprehensible and unpardonable would be the *laisser-aller* of this misery with open eyes if the possibility of an immediate recall remained open. Here we are again aided by the inseparability of the idea from the will in the Unconscious, the unfreedom and dependence of the idea on the will, in consequence of which the former has indeed to determine its "What," its goal and its content, but not its "That and whether." We shall see that the whole world-process only serves the one purpose of emancipating the Idea from the will by means of consciousness, in order by the opposition of the Idea to induce the peace of the will. Were now this end *attainable without consciousness*, or did such a consciousness in the sense of an emancipation of the Idea from the will exist at the beginning of the world-process in God, the whole cosmic process would be *foolish* and *aimless*, in that it

would be struggling to attain somewhat that either is *not at all requisite* for the object, or that *existed long ago.* This consideration affords the last decisive reason against the assumption of a transcendent consciousness in God in the sense of an emancipation of the idea from the will, if the contrary reasons assigned above were not more than sufficient. This last argument, be it observed, is thoroughly *inductive,* drawn from the empirical fact of the misery of the world, and derives its force solely from this, that no hypothesis involving a conscious God is able to explain the fact without contradiction.

Although, since Spinoza's identification of God, Substance, and Nature, the God-idea has to a certain extent obtained a citizen's rights in philosophy, I still hold the origin of an idea to be so important for its comprehension, that it seems to me advisable to avoid as far as possible in philosophy an idea with an origin so exclusively religious as God. I shall therefore continue as a rule to employ the expression, "The Unconscious," although the previous discussion has shown that I should have more right to the use of the word "God" than Spinoza and many others. Although the formal negativity of my terminology for an out-and-out positive Being must for a length of time be inadequate, yet it will retain its proper prophylactic value as long as the anthropopathic error of the *consciousness* of the Absolute prevails to a considerable extent. When, however, the negative predicate of *unconsciousness* is *universally recognised* as a *self-evident* predicate of the Absolute no longer needing distinct enouncement, then undoubtedly this negative designation will, in the historical progress of philosophy, have long been replaced by one more appropriate and positive.

IX.

THE ESSENTIAL NOTION OF GENERATION FROM THE STANDPOINT OF THE UNIVERSALITY AND UNITY OF THE UNCONSCIOUS.

WE will now employ our recently obtained point of view to clear up a few questions, which either have occupied philosophers for thousands of years, or precisely at the present time have acquired special interest among the general public. It will be shown how the solutions which flow from the principles already obtained are in full accordance with what the facts to be explained require, and what an unlaboured criticism of possible explanations leaves over.

The first of these questions concerns the nature of Generation. Formerly two theories contended concerning generation, Creatianism and Traducianism. The former assumed a psychical new creation on every occasion of procreation; the latter, a transference of parts of the paternal souls to the child. The former accordingly affirms in every case of procreation a creation out of nothing, a new miracle; and is, therefore, unacceptable to the more sober thinking of modern times; the latter, however, contradicts the facts. For if a man with the requisite number of women could easily beget over a hundred children in the course of a year, during the time of his procreative power, accordingly, many thousands, and yet notoriously no diminution of his soul takes place; on each act of generation the part given off to the child must have been much less than the thousandth part of the minimum which could just be traced as the

soul's loss. With such a tiny piece of soul manifestly the child could not for the length of time get along, still less his children and children's children, which, in decreasing progression, would soon acquire only the billionth part of a soul ; accordingly, the transferred piece could only be regarded as a *germ*, which is capable of growth. Under a germ one understands, however, a *formal* power which is able to draw to itself and to *assimilate foreign material* elements, and thereby to grow. If, then, the infant soul were, at its engendering, only a germ, the question occurs, Where are the foreign elements to be sought by which it is augmented ? The materialists answer very simply : The soul is only a result of material combinations; accordingly with the growth of the organism and its noble parts the soul also grows. This view we can of course not accept, but it is at least clear and self-consistent. But if we still ask where the elements to be drawn upon are to be sought, there remains nothing but the general spirituality, the impersonal psychical, in a word, the *Unconscious*. From this, accordingly, the piece given off from the parent-souls to the child-soul must draw its stock of increase.

But why, then, is a *soul*-germ wanted, as the *organic* germ can take the place of the same ? Does the child in the womb need another kind of psychical activity than that of organic formation ? And when by means of this unconscious psychical activity an organ is created in the brain for conscious mental activity, is there then needed yet another medium of attraction, in order that the Unconscious may turn its activity in this direction, than the presence of this organ itself ? Why, then, this unnatural hypothesis of the given-off soul-germs, by which one must either think of *one-sided tendencies* of the parental souls, which are no aid to explanation, or diminutive souls, hatched and detached, as it were—a horrible idea ?

And how, then, came these soul-buds first to get into the organic procreative germs, since both must be conceived

as arising independently of one another? Is there on every seminal emission with each of the millions of spermatozoa a piece of soul carried away at random, or does the detached diminutive soul of the father travel into the particular spermatozoon, if the same has had the good fortune to light upon an ovum of its own species capable of fecundation? And how does the diminutive soul of the father, held in reserve, learn which spermatozoon, emitted during coitus hours or days before, causes the fertilisation of an ovum?

If the child's soul is drawn from the well of the universal world-spirit, represents as it were the psychical appurtenance crystallised round the newly arisen organic germ, this conveys an essentially different idea from that of Creatianism, where the soul in the moment of generation is created by God out of nothing. Further, this view does not, like Creatianism, render unintelligible the transmission of psychical qualities, in that the organic germ is conditioned by the qualities of the parents and the spirit crystallising, as it were, from the Unconscious, is again modified according to the qualities of the organic germ. In this sense, by transmission of the constitution of the brain spiritual qualities may just as well be transferred from parents to children as a finger in excess or a morbid diathesis. On the other hand, the addition of a *genius* to the infant soul, demanded by higher historical considerations, remains unrestricted; for if the Unconscious *needs* special organs for its revelation, it *prepares* them also in due time; it will create in an organism which offers itself as especially appropriate an organ of consciousness, which is capacitated for unusually lofty psychical achievements.

If in this way we escape the main inconvenience of Traducianism and Creatianism, it is still always not to be denied that as long as one regards the soul of the individual not merely in its activity, but also in its essence, its substance, as something self-enclosed and *limited*, both with respect to other individual souls and also with respect

to the universal spirit, that so long the theory of generation has its great difficulties; for the rending of a new soul from the universal, and the attaching of the same to the new organic germ, is a very dubious proceeding, whether we regard this individualising of a new soul as a process of *gradual* crystallisation going hand-in-hand with the bodily development of the germ, or whether we regard it as a *single* momentary act, in which the new soul is engrafted ready made on the germ.

However, as soon as one remembers the results of our last chapter but one, the matter begins to grow clear, for now the soul both of each of the parents as well as of the child is only *the sum of the activities of the one Unconscious directed to the particular organism.*[1]

Now the souls of the parents are not separate, self-existing substances, can accordingly give off nothing of their substance, and the child *has no need* to acquire any special individualised soul, but its soul is likewise only the sum of the activities of the Unconscious directed at any moment on its organism. Could the parents really give off a portion of their souls to the child, they would still only draw from the great dish from which they, as all three, are fed.

Now there is also nothing wonderful in this, that the infant soul only grows *gradually* in proportion to the body, for the more developed becomes the organism, the more varied, rich, and noble becomes the sum of the activities of the Unconscious directed upon it. With our principle not only is the miraculous lost, but also that unique character that generation otherwise possesses; it becomes an act essentially similar to conservation and renovation even in spiritual reference, as it has long been

[1] We hardly need remind the reader that wherever the word "soul" occurs in the first two sections of this book, it must not, after the explanation of the last chapter, be understood otherwise than in the sense of the definition here given. If in the earlier sections the monistic view of the soul was less prominent, this only happened because, for the understanding of the matter there treated of, the current conception of the soul sufficed, and by premature insistance on the monistic point of view a proper understanding of the subject by the philosophically untrained reader would have been rendered needlessly difficult.

so acknowledged in material reference. Should the Unconscious cease to direct its activity (as sensation, ideation, will, organic formation, instinct, reflex action, &c.) at any moment whatsoever upon any existing organism, the latter would at the same moment be bereft of soul, *i.e.*, be dead, and would be unsparingly crushed by the laws of matter, just as the matter of this organism would cease to be as soon as the Unconscious intermitted the acts of will in which its atomic forces consist. Just as well, however, as the Unconscious at any moment animates every organism capable of animation, will it also animate the newly arising germ according to its capability of being animated. Add to this, that the moment is not at all to be determined when the germ becomes from a part of the maternal the independent organism, if one does not let the solution at birth pass for such. As long, however, as the organism of the child is a part of the maternal organism, and is nourished by it, so long we have still to do with a process which in essence is not distinguishable from any other organic formation. This will become more clear if we glance at the gradual progress from the lower kinds of propagation to sexual generation.

The simplest kind is *fission*, an ordinary case of the increase of cells, but also not rare in infusoria and other animals. That in a division of one animal into two there can be no talk of a division of the substance of the soul has been already repeatedly mentioned. There is a gradual transition from fission to *gemmation*, for the bud too is developed as part of the maternal organism, until, rendered capable of independent existence, it drops off (polyps, &c.) A difference in principle in the process of formation cannot be asserted, whether the animal replaces lost parts or forms buds for multiplication. In the cases, however, where the buds are characteristically presented as such, and are no longer to be confused with simple fission, their development from a single cell deposited in the maternal tissue at any part of the body—*germ-cell*—is always to

be recognised. Now it can manifestly make no essential difference at *what* part of the maternal organism the germ-cell is found from which the new organism is developed, whether this place lies at the side, or at an extremity, or on the arms, or in the abdominal cavity of the animal, or in a distinct ovarium. The two latter cases are distinguished from increase by gemmation as increase by germ-cells in the narrower sense. The germ-cells, which are developed in the abdominal cavity or in a special sac, mostly exhibit a marked external resemblance in form and size to the ova of the higher animals. Nay, one may even assert they are not to be distinguished morphologically from these.

In many animals (*e.g.*, plant-lice) multiplication by germ-cells already alternates with sexual propagation, or *one* generative act is sufficient to fertilise the germ-cells (or ova) for several successive broods. An insect belonging to the Diptera, *Cecidomyia*, by sexual propagation begets larvæ which, living under the bark of decaying apple-trees, develop without copulation in a species of ovary offspring so advanced, that they come into the world in a form resembling that of the mother. In some butterflies also the remarkable phenomenon of virgin generation or parthenogesis takes place, likewise in a whole series of lower crustacea; in both the offspring born without fertilisation are exclusively *females;* in the black humblebees, wasps, and bees, on the other hand, conversely, the males come forth from unfertilised, the females from fertilised eggs. Whilst among the bees only the queen lays eggs, which it can at will bring into contact with spermatozoa reserved from a former copulation or not, in the humblebees and wasps the bearers of the male and female offspring are separate individuals; the females, namely, that have survived the winter, which had copulated in the autumn, bring forth female young; these females born in spring, however, now produce without being fecundated the males for the autumn coupling.—The germ-cell or the

unfertilised ovum develops in a manner perfectly analogous to the fertilised ovum, only that the former does not need the appulse of fertilisation; yet there are accredited examples of the ova of animals that only increase sexually, which were notoriously unfertilised, entering into the process of yolk-furrowing, as if they were fertilised. (Such cases were, *e.g.*, observed years ago in the ova of pigs by the anatomist Bischof in Munich.) It is true their energy did not reach very far, and they remained at the first stages of embryonic development. Under certain circumstances, however, even here the process of growth of the egg can proceed to a tolerably advanced stage; thus, *e.g.*, it has long been known that hens without contact with a cock sometimes lay unfertilised eggs, which have accordingly traversed a tolerably long course of development from their microscopic origin.

The seminal corpuscle penetrating into the yolk-membrane with the point of its head, and there probably exchanging by endosmosis its substance with the yolk, does, therefore, nothing else in the first instance but give to the yolk-mass a powerful impulse towards entering upon the furrowing process,—an impulse which is indispensable under favourable circumstances for ova, under all circumstances for germ-cells. The transmission of qualities also on the father's side, on the other hand, proves that the union of procreative materials with the higher development of sexual generation certainly acquires a still profounder significance, in that through the mingling of the matter of generation there is produced a real blending of the parental qualities. The copulation of certain zoospores naturally occurs to the mind as prototype of this process, in which nothing but the united force of two cells appears to be decisive as long as no difference of the combining elements is to be made out, either in their own nature or in their origin.

According to the foregoing, we can see nothing further in the formation of new organisms through a female animal,

whether with or without the aid of a male organism, than an organic formation, which is distinguished from other organic formation, *e.g.*, the fresh development of certain previously non-existent organs at certain periods of life, not in the essence of the process, but only by the end which the newly formed object subserves, in that this end lies in all other organic formation (with the exception of the lacteal secretion in mammals) *within*, and only in generation *without*, the forming individual. If, now, the new formation, no matter from what beginnings, has attained a degree which renders it capable of existence as an independent organism, there follows the liberation from the maternal organism, an act to which we can hardly be inclined to ascribe any psychical importance, which goes beyond the reflectorial-instinctive accommodation to the changed life-conditions (*e.g.*, in mammals, occurrence of respiration).

Thus it is also empirically confirmed that the organism of the embryo, of the fœtus, and of the child, just as much as any other part of a finished organism, has at every stage and every moment of its life *precisely as much soul* as it needs for its own bodily preservation and continued development, and as its organs of consciousness are able to grasp. That, however, the Unconscious *lays hold of life wherever it can*, and that in this respect, too, quite apart from its connection with the maternal organism, the animation of the new germ relatively to its capability of animation is only the special case of a universal natural phenomenon, will become still more evident from a few examples.

In Autenrieth's "Views of the Life of Nature and of the Soul," we find on pp. 265–266 the following notes: "Thus also Lister (Kirby and Spence, 'Introduction to Entomology'), Bonnet and Stickney, saw caterpillars and pupæ of butterflies, and larvæ of the *Tipula oleracea* freeze into lumps of ice, and on being thawed revive.—According to the more exact observations of Spallanzani ("Opuscoli di Fisica Animale e Vegetabile," Modena, vol. ii. p. 236),

the tiny rotifers, *Furcularia rediviva Lamarck*, which are found in boggy water and in the sand from gutters, if they are not exposed to the open air, but covered in a little sand-heap, and left to dry along with it, after the lapse of three or even four years (during which time the dried sand has been preserved in a glass or a chip-box), sometimes revive as soon as the dry sand is moistened afresh with water, except that the longer they are kept in the dried state, the smaller is the number which again become living and perform all the ordinary life-functions. They revived, however, although by the process of drying they had become so indurated (and they usually possess merely a gelatinous body), that, if one pricked them with the point of a needle, the body burst like a particle of salt into several pieces. Thus these animalcules may be alternately dried and rendered lifeless eleven times, and yet when mollified in water again return to life. They also do not lose their capability of becoming reanimated if they *freeze* along with the water, and then are exposed even to a cold of 19° R. below freezing-point; just as in their dried-up state they may be exposed even to 54° above freezing-point without losing the capability of reviving by the aid of water, whilst, if they are in the living condition, they perish utterly in warm water of even 26°."

Ibid., p. 20:—"John Franklin ('First Voyage to the Shores of the Polar Sea'), in the winter of 1820–1821, on his first voyage to the North American coasts of the Arctic Ocean, saw fishes freeze immediately on emerging from the water, and become so solid an icy mass that they could be cloven by the axe into pieces—even their viscera presenting a mere solid frozen lump. Nevertheless, some of these fishes when warmed at the fire, without previous injury, recovered their vitality. A carp, notwithstanding that it had been for six-and-thirty hours completely frozen, recovered so completely that it was able to throw itself about with considerable energy."

When Ellis ("Voyage to Hudson's Bay") was wintering on the River Nelson at Hudson's Bay, a perfectly frozen lump of black autumn-flies was found; on being brought near the fire they revived He reported that frogs are often found there on the shores of the lakes as firmly frozen as the ice itself, which yet, thawed by a moderate temperature, recovered to such a degree that they crept from one place to another.

Thoroughly frozen trees, too, can, after being slowly thawed, revive and put forth fresh leaves.[1]

Hunter found, however, from his experiments, that when a fish perished *rather slowly* in the intense cold, and then was frozen, it became incapable of being recalled to life by thawing, on which account the attempt is unsuccessful to freeze an entirely warm-blooded animal and to try to revive it by thawing; and we must renounce the hope of ever again beholding in life, even under favourable circumstances, say an elephant or rhinoceros of the primeval world, preserved quite whole in the polar ice, as one has found toads in rocks in which they must have been enclosed for centuries, perhaps thousands of years, and which when liberated hopped about quite briskly.

When modern authorities declare the reanimation of frozen warm-blooded animals to be impossible on account of a decomposition of the blood induced by the frost, they are met by the most recent investigations of Schenk, according to which a temperature of $-3°$, sometimes even a briefer refrigeration to $-7°$, is borne quite well by blood corpuscles, salivary corpuscles, spermatozoa, and even by

[1] *Helleborus niger* and *Bellis perennis* freeze on the occurrence of cold in all stages of florescence, and continue to grow after being thawed, a circumstance which occurs more than once in winters of variable temperature. Göppert saw expanded flowers for weeks in this state. Of course there is for each species of plant, even for those which bear cold best, a definite limit, the overstepping of which occasions death. According to Cohn's direct microscopical observations, *e.g.*, cells of *Nitella syncarpa* perish on being cooled below $-3°$ C., whilst the protoplasmic contents of the primordial sac are disorganised by the freezing of the water. Other plants, on the contrary, die even some degrees above freezing-point.

fertilised ova, notwithstanding their more advanced state of life, motion, and development. (Pox lymph, even after prolonged cooling to − 78°, loses none of its force.) If the proceedings on the questions appertaining to this subject are not yet closed, yet the instances quoted are in general sufficient to render plausible the *a priori* belief that every trace of life can disappear from an organism, and that notwithstanding the *ability* to begin a new life-career, under favourable circumstances, can remain intact, if only none of those changes have taken place in the same which render anatomically or physiologically impossible the resumption of the life-functions after the restoration of the normal circumstances. For this it is necessary that both during the lifeless condition (induced by dying or freezing, or by hermetically sealing), as well as in the passage from the normally vital to the lifeless condition (*e.g.*, through the *rapidity* of the freezing), a chemical or histological change detrimental to future vital activity be prevented. On the other hand, such changes are indifferent as regards resuscitation which only destroy the normal character of the future vital functions, and cause the organism to awake to a merely pathological life, which is, however, soon again extinguished of itself.

In Rotifers one might assume that the drying up never goes so far as to allow of any interchange of matter, so that, strictly speaking, one would not have to do with an absolute stoppage of the vital functions, but with their reduction to a minimum (as in winter sleep). But even this assumption fails when it is a question of frozen bodies, as hard as stone, in the winter cold of the polar regions, or of toads which have been enclosed in rocks for centuries, or even still longer. For the latter, a minimum of exchange of matter, which one may conceive to be brought about by the water percolating the rock, must have sufficed in the enormous stretch of time for the animal's consumption. In the case of frozen organisms, however only a slight superficial evaporation can have

taken place. Vital function, however, is rendered impossible both by the absence of the most general physical conditions of the organic change of matter, endosmosis, as also by the indispensableness of a fluid state for every chemical reaction.

Now, if it be granted that in the utterly frozen body every organic function, *i.e.*, all vital activity, is impossible, the body is deprived of every trace of life, *i.e.*, it is *absolutely lifeless;* its condition is then *specifically and totally different* from all states of depressed vital function, like sleep, hibernation, swoon, tetanus, apparent death: the body in this condition bears the same relation to life as an inorganic body.

It is of course intrinsically unimportant whether one applies the epithet *dead* to the body, for that concerns only the definition of the notion dead. If one absolutely identifies *lifeless* and *dead*, as is natural, one will do so; if one, however, makes a distinction between the two conceptions, and calls only that lifeless object which cannot become again living dead, one will not do so. The latter view could, however, result only from the prejudice that what is dead cannot again become alive,—a proposition, of course, not to be proved *a priori*, but only to be induced from experience, and which for a long time might pass for true. But now, when facts come to light showing that something dead can under certain circumstances become alive again, one should rather recognise the exception to the induction hitherto assumed as a universally valid axiom, than arbitrarily restrict the conception "dead" for the sake of the old prejudice. This remark would certainly be idle, if that prejudiced limitation of the concept *dead* did not also entail the further prejudice, that the absolutely lifeless need not also be void of soul, which one would rather have thought self-evident; for the soul of a body is indeed only the sum of the functions or *activities of the Unconscious* referring to it, which for the sake of brevity are called *its* vital functions.

From the circumstance that an organism, so long as it

is frozen, possesses neither life nor soul, it follows that if after a certain time life and soul return to it, this soul can no longer be regarded as *one and the same* with that inherent in it before the passing into the frozen state, since for the sameness of two temporally divided souls the temporal *continuity* of the activities of the former with the activities of the latter is requisite; but by no means can the sameness of the *organism* in question and the *similar nature* of the souls depending upon it be deemed sufficient. If, to speak with the vulgar, on the cessation of life the old soul has gone away, with the reappearance of life *another* soul might just as well as the former one have taken up its abode in the organism. The absurdity of this way of regarding the subject is, however, immediately evident, if one reflects that the Unconscious is all in all, and remembers that old and new soul are activities of the same essence of the All-One directed to the same organism that sends life again immediately into the organisms, so far as is *possible*, according to the laws of matter.

One sees from these examples that it makes no difference to Nature whether, as ordinarily, the vital organisms enjoy a continuity of their vital functions, or whether a body hitherto incapable of life becomes at this moment vital; *as the possibility* of life is given, the Unconscious *animates* it, in that it directs upon it the psychical functions adapted to its constitution. If we then assume the case, that the germ of a young organism, which we commonly have seen arise as an integral element in the life-course of the maternal organism, that such a germ, liberated from all dependence on an already existing life, suddenly begins to be, it must just as infallibly as the thawed fish or the mollified rotifer in the first moment of its organic *capacity* for life be animated by the Unconscious, and such a phenomenon should now no longer be regarded as an isolated exception.

To this view I refer any one who should assert that the unfertilised ovum is not yet animated, and only receives its soul at the moment of fertilisation, which, indeed, in

lower animals, for the most part, takes place outside the maternal organism; although this conception not only runs counter to our view of the animation of *every cell*, but also fails to explain the evolution of the *germ-cell* without fertilisation. But at any rate our doctrine finds a sufficient application in the instance of spontaneous generation, or the arising of organic beings from inorganic matter without a maternal organism. Such an original generation *must have taken place*, for geology shows that the earth has gradually cooled down from a molten mass to our present temperature; but now, as no organisms can exist at a temperature higher than that required for the coagulation of albumen, the earth must, for the longest part of its existence, have been uninhabited; and as it is now actually peopled by organisms, there must of necessity have been a point of time when the first being or beings came into existence,[1] whereas before this time there only existed inorganic matter. Here the conception of spontaneous generation is satisfied.

I do not say that at that point of time no organic, but only that no *organised* matter was in existence; on the contrary, I believe we must assume that, under the influence of a humid atmosphere, very rich in carbonic acid, of greater heat, of light, and strong electrical influences, even by the inorganic path highly complex combinations of carbon, hydrogen, oxygen, and nitrogen were formed, which the chemists of to-day, on account of their especial occurrence in organic beings, have designated by the improper name of organic substances.

Very recent chemical investigations have succeeded in refuting the earlier assumption, that organic substances could not be obtained by an inorganic path, by facts so

[1] When Thomson (speech at the British Association for the Advancement of Science at Edinburgh, 1871) suggests a transferring to our earth of germs elsewhere developed by means of meteoric stones, he has to meet the difficulty that such germs must always be destroyed by the heat produced in cleaving the atmosphere before reaching the earth's surface, if they had not been previously killed by cold in the mundane space.

striking, that it now only seems a question of time when man shall obtain complete mastery over the province of organic chemistry likewise. Synthetic chemistry is already in the organic department on a level with analytic chemistry. A number of the most talented investigators (*e.g.*, Berthelot) devote their energies to it, and well-nigh every month it has new and striking triumphs to report. The problem of producing the acids, aldehydes, and alcohols belonging to the so-called fat series from inorganic elements is to be regarded as solved in principle, and the discoveries in the so-called aromatic series (to which most liquid combustibles, organic colouring matters, essences, and perfumes belong) take place with such rapidity and with such certainty, that we now hardly need to ascertain more than the organic-chemical constitution of such bodies in order to be sure of their synthesis in advance. But the keen eye of the chemist gazes still farther; the resinous and saccharine substances are beginning to reveal their true nature, and to awaken unbounded hopes for the future of organic synthesis.

If thus the boundary-line between inorganic and organic *matter* has long fallen away, that between inorganic and organic *form* begins more and more to waver. Undoubtedly the compound organic types exhibit forms for which (with the exception of the radiated type) no analogy is found in inorganic nature; but we must not forget that life dwells also even in the great kingdom of unicellular organisms, and the cell finds, in fact, its analogue in inorganic nature. In the first place, most fluids possess at their surface a considerably greater density and tenacity than in their interior, a difference which appears nowhere more plainly than in albumen and its solutions. If in every drop an analogy here presents itself with the often infinitely delicate cellular membrane, the resemblance becomes a surprising morphological identity with starch-granules in the microscopic corpuscles of carbonate of lime, which Famintzin precipitated by bringing together saturated solutions of chloride

of calcium and carbonate of lime. Here is exhibited the same nucleus, the same stratification, the same concrescence of several granules, the same augmented capacity of resistance of the internal layer to acetic acid as in the starch granules. It follows from this, in the first place, that starch granules are not *living* cells, but lifeless secretions of other living elements, a magazine of material destined for future reconsumption. But it also follows that the *cell-form*, with nucleus and membrane, of itself proves nothing at all with respect to the existence of organic *life*, not even when it has organic matter for its contents, but that for life something *quite other* is required than organic matter and organic form, something *ideal*, which manifests itself in the preservation and *elaboration* of the form *by the interchange of matter*, whilst every conservation of the form by passive conservation of the matter is related to life as a mummy, which at the most deludes the naked eye with the *semblance* of life.

I said, therefore, it is probable that before the coming into existence of the simplest organisms, so-called organic combinations of a lower stage were already in existence, which rendered the building up of an organism from them essentially easier, as water, carbonic acid, and ammonia, by which complete organisms are nourished. For the formation of the primitive germ these organic substances would then have, at least, played the part of *manure*, which now arises from the process of decomposition of organisms. The probability that these first organisms lived in water is generally recognised; that they must have been very simple beings, simple cells standing at the indifference-point between plant and animal, has been already shown in Sect. C. Chap. iv. Now, however the process itself may be conceived in detail, this must be firmly held, that the Unconscious *apprehended* and realised the *first* possibility of organic life that occurred. When previously, in discussing sexual generation, we conceived the "moment" of the animation of the germ, as if the Unconscious approaches a

formed germ in order to animate it, this was only admissible because, in harmony with the traditional mode of apprehension, we tacitly supposed the unconscious-psychical activities requisite *for the formation* of the germ to proceed from the parental organisms; but now, as such a distinction has no place from the point of view of the All and Only Unconscious, we must call to mind that the *animation* of the germ does not follow, but *precedes* the *origin* of the germ, *i.e.*, that the germ can only come into existence by the Unconscious causing a special activity to effect its origination, which *predestines* its typical form in accordance with the possibilities given by the existing conditions, precisely as in the plastic energy of the *vis medicatrix* the typical form of the leg growing again on the salamander is predestined by the activity of the Unconscious. Here, as there, no inorganic laws of Nature are contradicted, none assumed to be inactive even for a moment, but they are only employed for a higher purpose; something is formed which could not have come to pass solely by the co-operation of the laws of inorganic Nature, and which only becomes possible through the will of the Unconscious stepping in and inducing a state of affairs in which now, by the normal action of the inorganic laws of Nature, a new form capable of new performances is fashioned.

As the Unconscious hourly seeks to realise and to retain life in millions of germs, which indeed are soon again, often even at their origin, dashed to pieces, owing to unfavourable circumstances, through the pitiless necessity of inorganic laws, so when first life seethed on the earth's surface millions of primitive germs may have been nipped in the bud before life succeeded in taking firm footing, as it were, on the earth. But when once it had succeeded in producing one or a few organisms, the Unconscious had freer play from this conquered basis of operations; it could now secure the aid of *parental procreation*, and by its help maintain and extend the conquered ground with proportionately less effort. For it is mani-

festly very much easier to draw together the organic substances diffused and distributed in the water about an existing organism than around an ideal point; it is very much more easy to effect the requisite chemical transformations and modifications by assimilation aided by the contact action of a given organism than without such; and it is very much easier to produce the typical form of the cell, with its ever-richer inner articulation, through the simple artifice of cell-division with the help of furrowing, than from amorphous matter.

It needs, then, at all events, an infinitely far less effort[1] of the will, to form organisms by the aid of those already existent, than *without* the same, just as in the case of a higher animal it needs a far less effort to act on tissue with the help of nerves than without. We may then

[1] It might appear to superficial observation as if the resistance which the Unconscious finds in inorganic matter to its organising activity were an instance against the all-unity of the Unconscious. This is, however, by no means the case. We have seen above that the strife and struggle of the individualised natural forces or formations of the Unconscious is a necessary condition for the coming to pass of the objective phenomenal world and for the origin of consciousness in particular (comp. pp. 227, 228); here occurs only a special case of this general truth. As little as an organisation could proceed from mere inorganic matter without an organising principle, so little could the organising principle realise itself in organisms, if it did not find matter pre-existent. The Unconscious must, therefore, previously create a matter in order to be able to create organisms, the substrata of consciousness, and, moreover, a matter subjected to exceptionless laws, because only in such is the setting up of accessory mechanisms possible, which always perform the same tasks. That, however, such a matter, comporting itself according to its own laws, which of itself does not tend to the formation of organisms, opposes a certain resistance to the activity of the Unconscious, which constrains it to the formation of organisms, is self-evident, and it is no wonder that this resistance, varying in amount according to the accidental configuration of the natural forces active at any spot, can under certain circumstances assume such proportions that the Unconscious, interested only in the universal, not in the single case, forbears to master the difficulties that present themselves, since it more easily attains by another path, or attains indeed at other places, often enough for the purposes of the whole process, the same end. (This explains, *e.g.*, abortions in consequence of material disturbances of embryonic development.)—According to these observations, the expression "effort," if one only keeps aloof from every anthropopathic suggestion, need no longer appear unsuitable for the designation of the degree of the intensity of the will, the application of which is requisite in behalf of the organisation for the overcoming of occasional material resistance.

assume that the same application of force or will, whereby *a* cell comes to be by means of spontaneous generation, is sufficient to form many *millions* of cells by cell-division.

But now we have found that Nature altogether is bent upon attaining her ends with the least possible application of force; that she everywhere prefers the setting up of mechanical contrivances for utilizing the inorganic molecular forces actually present to direct intervention; at any rate, however, she tries to limit these interpositions, since in the last resort they are not quite to be done away with, to a minimum of expended force.

Thus we saw (Sect. A. Chap. i. a) that the nervous system of animals is nothing else than such a force-saving machine, which by means of the slight triggers and levers of the brain overcomes hundredweights attached to the limbs. We saw (Sect. A. Chap. iii. v. vi. viii. and C. iv.) a number of contrivances in animals and plants so arranged that the facilitation of stimuli by these provisions, or even their purely mechanical mode of action, rendered special instincts superfluous. Conversely we saw instincts employed to render needless extensive efforts in organic formation, *e.g.* (B. Chap. ii. and v.), the instinct of sexual selection to achieve an improvement of the race in respect of beauty and otherwise; the next chapter will furnish us with more examples of a like kind, which prove with what delicacy the Unconscious everywhere endeavours to attain its ends in the most mechanical, *i.e.*, least troublesome manner.

From this point of view now likewise sexual generation appears as a *mechanism* replacing spontaneous generation by an immense saving of energy.

As a rational man does not ride across country when there is at hand a turnpike road, neither does the Unconscious after establishing a nervous system in an animal still effect muscular contraction by direct action of the will on the muscular fibres, nor continue to make use of spontaneous generation when sexual generation is open to it.

This law derived from the nature of spontaneous generation has very recently attained its complete empirical confirmation, in that the microscope has uniformly revealed, where one had formerly supposed spontaneous generation, sexual generation, and at the present day *no single case* of actual spontaneous generation has been observed, notwithstanding that the microscope has very carefully swept the province of minute life in all directions.

I do not at all dispute that the possibility is at any moment open of establishing spontaneous generation at the present time ; I even concede that the negative proof, that now there *can* be no spontaneous generation, must always remain for experientialism an *impossibility ;* but nevertheless we may well assume that an assertion, in which theory and empirical observation *agree,* has a considerable probability in its favour.

For the reader not conversant with the interesting facts relating to this subject I add a short notice of the same.

Aristotle believed that most of the lower animals arose by spontaneous generation. A few centuries ago spontaneous generation was assumed for intestinal worms and infusoria, although for a long time voices were heard suggesting the possible overlooking of parental germs. First the modes of immigration and different states of the intestinal worms were scientifically established ; then it was shown that infusions boiled *for more than five hours,* which came in contact only with heated air, gave rise to no organisms. The advocates of spontaneous generation, however, justly replied that the heating of the air must also destroy the capability of the production of organisms.

Schröder and Dusch first showed that a plug of cotton twenty inches in length filtrates the air in such a way that it allows no organisms to arise.—Pasteur examined the germs floating in the air by catching them in guncotton and dissolving the latter in ether and alcohol.

He found the same to answer in all respects to the otherwise familiar germs of the lowest animals. He also positively proved, that they are the cause of the development of organisms in the infusions, by introducing along with the heated air a small plug of cotton containing germs, and the organisms always appeared, as if the air had had free access. Pasteur even compared by an ingenious method the relative quantities of the germs contained in the air at different localities. Recently Crace-Calvert ascertained by his exact investigations that temperatures of 100° C. do not essentially affect the minute organisms in question;[1] that at 149° C. only those which develop in solution of gelatine become incapable of germination, but that for the destruction of the germinal power of the organisms which develop in the other experimental solutions a temperature of 204° C. is requisite. Accordingly the assumption of a spontaneous generation in infusions has been scientifically set at rest once for all.

I will mention one more case, the origination of *Monas amyli.* A swarm of unicellular infusoria was seen to arise in starch granules, and it was thought that spontaneous generation was being witnessed. But when the history of these creatures was traced farther, one saw them become liberated on the final disruption of the starch granule, each seek a fresh starch granule and completely cover it, expanding after the fashion of the Amœbæ. This thin little skin on the surface of the grain, the animal, which had swallowed the corn, as it were, and now slowly digested it in layers, had previously escaped observation. Now, of course, the origin of the brood was recognised as endogenous increase.

The law of reproduction is so universal in Nature, that not only no case of the parentless origin of an animal or a plant is known to us, but even *not a case of the parentless origin of a cell in an existing organism.*

1 Those capable of resisting higher temperatures are, according to Ferd. Cohn, the germs of Penicillium, whilst according to the same investigator the germs of Bacterium are killed already at 80° C.

If spontaneous generation could occur anywhere, one would certainly expect to find it in a spontaneous arising of cells in the juices of an existing organism, where both the temperature and the chemical composition of organic matter affords the most favourable suppositions conceivable; but in vain. *Even within the organism cell only arises from cell.*

All sober-minded naturalists allow that, from the negative results of the most careful investigations with our present perfect instruments, there results a high probability for the supposition that spontaneous generation does not take place at the present day. From the probability of this assumption one must however regressively conclude that the spontaneous generation even of the simplest Protozoa must be none so easy and simple an affair, and that for the re-establishment of the same quite other conditions are required than a mere mechanical individuation of existing protein substances. Were it not so, the spontaneous generation of Protozoa from protein-containing fluids must be observable under the microscope with the proper temperature, illumination, ozone-containing air, &c.; but even supposing a case of successful experiment, it would still never appear credible that such a Moner, which always belongs to a well-defined species in virtue of its mode of nutrition and propagation, could arise and functionally persist by the mere play of inorganic atomic forces (comp. also pp. 212, 213 and 291–293), without psychical influences from the Unconscious ideally regulating the mode of this activity.

X.

THE ASCENDING EVOLUTION OF ORGANIC LIFE ON THE EARTH.

We have in the last chapter shown the probability of the assertion that the Unconscious expended its energy in spontaneous generation only as long as was necessary, *i.e.*, until reproduction could be substituted for it. From the same first principle of Nature of the greatest possible saving of energy directly follows also the other proposition, presupposed as self-evident in the preceding considerations, that spontaneous generation, *i.e.*, a direct production from unorganised matter, can only have reference to the very simplest forms of organic life; that, on the contrary, for the genesis of higher life-forms the Unconscious will by no means choose the course of direct production, so difficult for the simplest beings, but a mode of origination effected by gradual stages. Not that I would maintain the *absolute* impossibility of the direct original creation of a higher animal; on the contrary, I have always maintained the Will can do what it will, if it only wills with sufficient intensity to overcome the opposing acts of will. Not that I would deny the theoretic possibility that even *within the range of the inorganic laws of Nature*, at certain moments of terrestrial development, the Unconscious could have set up a direct spontaneous generation of higher animals; to presume to decide the point were folly. Only this much I assert, that a direct spontaneous generation of higher organisms would have required an enormous application of force, an expenditure of energy

which would have infinitely exceeded that requisite for the original creation of the simplest cell; that therefore the infallibly logical in the Unconscious, agreeably to the principle of the attainment of all ends with the least possible expenditure of energy, could not but prefer to the spontaneous generation of higher organisms a mode of production effected by many transitional stages, each of which, besides paving the way for higher beings, *served in addition other and independent ends*, and at the same time was attainable with a relatively trifling expenditure of force by means of a plastic principle of descent.

If we ask plainly, what would be needed for the spontaneous generation of a higher organism? the answer is: in the first instance, organic substances of not too low chemical composition in sufficient quantity and sufficient concentration. Where, however, are these more easily to be found than *in an already existing inferior organism?* In any case, therefore, the direct transformation of an already existing inferior organism into a higher one (*e.g.*, of a worm into a fish) would offer fewer difficulties than the spontaneous generation of the latter without the assistance of an existing organism. But here too the difficulties would always be still so great, that an enormous application of the energy of the Unconscious would be required to surmount them; for the already established forms and elaborated organs of the lower organism must for the most part be first *annihilated*, in order to give place to the corresponding forms and organs of the higher being. This not inconsiderable negative work, of previously annihilating what had been *created in the embryonic development* of the lower organism, is manifestly altogether avoided if the metamorphosis begins at stages of development so early that these specific forms and organs of the lower stage are never brought to perfection, but in lieu thereof at once those of the higher grade. Strictly then one can only speak in an *ideal* sense of a metamorphosis, for only the ideal type, which proceeded according to the ordinary course of de-

velopment from the germ of the lower organism, has yielded to the realisation of a different ideal type, but in reality no transformation, but only an embryonic development has taken place. Even Agassiz, a leading upholder of the distinct creation of species, admits that this creation could only have taken place in the form of *ova*, and that for the development of these asexually created ova there must at the same time have been created similar conditions to those under which the sexually produced ova now develop, which indeed comes to this, that *foster parents*, of course from *other* species, must have been provided for the ova needing parental care.

But now I ask, which conception is the more monstrous, this, that an individual of a higher species is evolved from the ovum of a lower species, or this, that the ovum of the higher species was made at a stroke by spontaneous generation, an ovum, indeed, from which absolutely nothing but this higher species could proceed, and in which consequently all the characters of the higher species were already implicitly contained? It is, moreover, to be remarked that the ova of the highest and those of the lowest animals are morphologically and chemically so similar, and the first stages of development—of embryonic development—are so uniform, that they are not at all or scarcely, and even then for the most part only by accidental signs, to be distinguished. It is of no avail to rely on this, that usually all the characters of the genus are actually implicitly contained in the fertilised ovum of a species. However correct this (for the rest indemonstrable) view may be, yet an ovum must always have already passed through a number of stages of development before it can possess independent existence, and the young be hatched by the action of solar heat, or the animal heat of the foster parents, or the temperature of the earth for the time being, not to mention that the ova of the animals which bring forth living young never attain this independence. Where now shall this development of the ovum before self-dependence have

taken place; whence is it supposed to have got its stock of albumen, unless from a female animal; whence came the first focus for the primitive yolk-sac, unless it lay in an ovary? Albumen is in truth not so common in inorganic nature that the spontaneous generation of a yolk-sac were something easy. At all events, it would have cost the Unconscious infinitely more difficulty to produce by spontaneous generation such an egg, possessed of all the characters of the higher species to be newly created, than either to evolve an individual of the new higher species from an ovum containing the characters of another inferior kind, by obliterating these characters always merely foreshadowed in the germ, and adding new ones, or however to develop the ovum containing entire the characters of the new higher species in the ovary of an individual of a lower species, or, lastly, to make use of *both expedients at the same time*, *i.e.*, to develop an ovum particularly favourably constituted in view of the new species, *both* in the ovary of the inferior individual, as well as *after* quitting the same with the modifications necessary for attaining the higher species. Where is the natural origin of the individual unless in the ovum? Where is the natural origin of the ovum unless in the ovary of a female animal? How inconsiderable appear the difficulties, which the Unconscious has to overcome in the evolution of a higher organism from the womb of a lower, to the colossal difficulties which would oppose it in the original creation of the higher organism. When we have thus only a choice between these two assumptions, we shall unhesitatingly decide for the former, that the higher species proceeds by reproduction from the lower, but by a reproduction with modified development of the ovum, as Kölliker (Siebold and Kölliker, Zeitschrift für wissenschaftl. Zoolog. and Medic., 1865, Heft 3), who adopts this point of view, calls it, "*heterogeneous generation.*"

We have hereby gained a fixed support for the intermediate stages presupposed from the very first for the produc-

tion of higher animals; it is a scale of ever higher and higher species by which the organising Unconscious realises the highest organisms. Certain, however, as is this general result, no less certain, however, is it that we cannot stop there.

Although we have proved in Sect. A. Chap. viii. that the Unconscious is active at every moment of organic formation at every part of the organism, and makes its influence felt quite specially in the relatively impetuous embryonic development, yet, on the other hand, it is not to be denied that, as everywhere where it is possible, so also for the evolution of the ovum the Unconscious has, as far as possible, facilitated its intervention and reduced the material actions to a minimum by previously established mechanisms. Accordingly, in all probability, there exists in the male and female reproductive materials an energy intentionally implanted by it itself at earlier stages, which enables these substances to develop under the requisite psychical guidance *more easily* in the direction predesignated in the parental organism than in any other. Now since the Unconscious always follows the line of development previously indicated, as the direction corresponding in general to its predetermined ends, and offering the least resistance to realisation, if it has no particular reason for deviation for a particular purpose; and since such a reason is wanting in ordinary generation, *where the sole end is the preservation of the species*, it usually takes, in the psychical guidance of embryonic development, the course indicated as the easiest by the qualities previously imparted by itself to the materials of generation, *i.e.*, *the begotten resembles the begetters*, and this phenomenon is called the "transmission or inheritance of qualities."

From such a universal teleological rule the Unconscious is the less inclined to deviate the more general is its scope, *e.g.*, from the inorganic laws of Nature not at all. Since now the difficulties are already sufficiently great,

which arise through the transcending of old species and the adding on of new characters, the Unconscious will seek to withdraw itself as far as possible from those difficulties, which it would have to overcome in the annihilation of such characters of the old species as could or should not be taken over into the new species, and will for this purpose seek to create the new higher species from *those* species in which *only* new characters are *to be added,* but the fewest possible or no extant positive characters are to be *destroyed, i.e.,* from *relatively imperfect* species, provided with few specific characters, affording much scope for further development, but not from species already highly developed, *strongly differentiated,* and endowed with many and definite characters.

This is fully confirmed by the palæontological history of the animal kingdom. Every important order of the animal kingdom resembles the branch of a huge tree, and at a particular geological period is developed from lowly beginnings into higher forms. It is not these latter, however, that resemble the extremities of the branch, whence, under the changed circumstances of a later geological period, a new animal order arises,—for they have by abundance of decided characters strayed, as it were, into a *cul de sac,*—but those imperfect primitive stocks of the order, that have maintained themselves in the struggle for existence with trouble and difficulty all through the earlier period against their far superior descendants, the shy offshoots of the branch, as it were, standing nearest to the trunk, from which, by addition of new and hitherto non-existing characters, the new order subsequently arises. This is a general law of Nature, the special application of which to the development of humanity has long been familiar to every student of history. If the races or stocks, which at a certain time represent the summit of the human evolution, have fallen into stagnation (or temporary depravity), there appear less developed virgin races or stocks, as it were

on the theatre of history, to develop speedily to a height which decidedly exceeds the bloom of the previous most advanced races (pp. 11–13). It is the same in the development of the animal kingdom, only that the advance in organisation always going hand in hand with growing intelligence is there more obvious than in the case of man, who, with the exception of the increased development of brain, forms and fashions the organs of his growing culture into external instruments (instead of like the animal into bodily organs).—Defective as is our knowledge of the transitional stages, derived from the forms preserved in the existing fauna and the palæontological remains hitherto found, it yet perfectly suffices to sustain the above assertion.

After the Crustacea have attained their maximum development in the crabs, the Arachnida make their appearance with the very imperfect mites; after these have reached their limits in the spider, there follows in the insects a retrogression to the inferior lice. The highest forms of the Mollusca are the Sepiæ, of the Articulata the Hymenoptera; both are far more highly organised than the lowest known fishes, both possessed a form as perfect as that met with to-day, before the Vertebrata existed at all. But they were too one-sidedly and too completely differentiated for a class to spring from them requiring quite other fundamental structural conditions. Fishes rather developed from Ascidians, Worms, and Crustaceans. For reasons easy to understand, the oldest *fossil* fishes belong only to the transitional forms of the Crustacea, because the other two classes were too soft to leave fossil remains; on the other hand, the transitional forms of the latter have remained as two species down to the present day. The almost transparent little lancelot, two inches long, living on the coasts of the North Sea and Mediterranean, *Amphioxus lanceolatus Pall*, possesses no skull and no vertebral column, but only a simple massive cartilaginous cord as support of the nervous axis, no brain separated from the spinal cord, no heart no spleen, only

a cœcum in lieu of a liver, no coloured blood, no proper fins, but merely a narrow membranous border expanded at the caudal extremity. Just as Linnæus had regarded another fish (*Myxine*) as a worm, so had Pallas taken the Amphioxus for a slug (*Limax*); but recent anatomical investigations have proved that it is constructed on the type of the Vertebrata, represents the lowest known stage of fishes, and altogether must pass for the *prototype* or primitive form *of the whole vertebrate kingdom*, as the immediate descendant of the oldest Vertebrata of the primæval world, whose relatives undoubtedly peopled the primitive seas in innumerable quantities. The Amphioxus is most related to the Ascidians (a kind of mollusc), in which not only in embryonic development[1] (as in certain lower worms) the peculiar formation of the so-called germinal membrane, hitherto regarded as characteristic of the vertebrate type, presents a similar appearance to that of Amphioxus, but which even at a certain stage of their development possess the cartilaginous groundwork of the vertebral column, although, to be sure, they afterwards lose it again.

Passing from the fishes to the Amphibia, a transition is again presented only in imperfect and lowly forms, whilst the two classes part company from one another the more they are developed in their characteristic one-sidedness. The scaly salamander living in the Amazon, or *Lepidosiren paradoxa Natt.*, is an animal three feet long with a fish-like form, with gills and a scaly covering, which altogether answers to that of the osseous fishes. Two fins on the head

[1] Embryology is now one of the most important aids and sources of inquiry for the theory of descent, since we may say generally that every animal in its embryonic development briefly repeats the stages of organisation of the embryonic development of all its *direct* ancestors. Forms which do not lie in the direct line of descent, but only in side-lines, are never met with; but the development-series even of the direct ancestors, especially of the more remote ones, may be indicated in a form so abbreviated, nay, even proceed by such leaps, that tre eye of the investigator only perceives the likeness to the remote ancestors, when he comprehends them by the light of the study of the embryology of intermediate stages of organisation (*e.g.*, Mammal and Ascidian through Amphioxus).

and two on the belly indicate the anterior and posterior limbs. Besides the gills, however, the animal has also a pair of lungs, which open by an air-passage into the œsophagus; accordingly an organisation such as never occurs in the true fishes, but, indeed, in the fish-like Saurians, *e.g.*, *Proteus*. Respiration and circulation accordingly assign the scaly salamander to the higher class of the Amphibia, whereas all the rest of the organisation is that of a fish. If we now consider the stage of development of the animal simply as vertebrate, it stands as low in the scale as possible. Its skeleton is only imperfectly ossified, the vertebral column consists of an undivided cartilaginous cord, to which the ossified vertebral arches are fitted. Similar to *Lepidosiren* is constructed the *Protopterus* living in Western Africa, which in the flooded marshes only needs gills, in the dried-up marshes, however, lungs. Huxley, fifteen years ago, found these marks sufficient to fix the derivation of the double-breathing scaly salamander from the circular-scaled cartilaginous fishes, a determination no longer doubtful since the discovery of an animal (*Ceratodus*) by Krefft in the river Burnett (Queensland), which is exactly intermediate between the cartilaginous fishes and scaly salamanders (figured and described in the "Ergänzungsbl.," vi. p. 227). It may accordingly be regarded as proved that the Amphibia (and along with these also the higher animals) spring from the *cartilaginous* fishes, and that the *osseous* fishes now mostly peopling the waters form a side-branch in the pedigree of the animal kingdom, in which they rank decidedly higher than the cartilaginous fishes.—These examples may suffice to verify and to illustrate our assertion.

These facts, which Darwin admits, cannot be explained by his assertion that the strict *constancy* of the transmission of qualities is in every case determined by the duration of their persistency, and that every species is the less inclined to deviate from its specific character the older it is. There lies in this assertion the truth

that young species stand nearer to the original stock than older ones, which, unmindful of their origin, as it were, have become arrested in their limited idiosyncrasies, and that therefore young species of common descent show, even among one another, more affinity and capability of mixture than older ones. Such young species which give rise in crossing to hybrid races, are called *fluent* species, in contrast to the self-contained fixed species, in which each hybrid race again speedily perishes by reversion to the stock. Such fluent species are, *e.g.*, the species of dogs, finches, mice, whilst the races of man are in the stage of transition from fluid to fixed species; at that stage, indeed, when between the more remote forms of the series no permanent hybrid race is any longer to be obtained.—Decidedly *incorrect*, on the contrary, is the above assertion of Darwin, so far as he asserts that universally and uniformly the capability of varying decreases with the length of persistence; rather the artificial breeding of plants and animals has hitherto revealed no difference in the capacity for variation of old and young species. But suppose the assertion were correct, we should in consequence expect just the *contrary* of what it is said to explain; for as the more perfect and highly differentiated species are always of more recent existence, accordingly are *younger* than their less perfect stem forms, the latter, as the *older*, would be *less* adapted for commencing a new-development series, whereas the facts teach the contrary. We must therefore maintain that more perfect species do in fact vary just as easily and just as much as the more imperfect, if they are caused so to do by change of circumstances; only the former have not the tendency to be so easily converted *into higher orders* as the latter; and why this is not the case, and why this conversion into a new order only takes place when within the previous order the abundance of the more perfect forms is exhausted, can never be proved from the assumptions of the Darwinian theory.—

Having become acquainted in heterogeneous generation with the one expedient employed by the Unconscious to facilitate the formation of new species, let us observe its operation a little more closely. Hitherto we have not at all taken into consideration how far in heterogeneous generation the offspring may differ from the parents. It is, however, clear that the Unconscious, in the formation of higher species, will make no unnecessary leaps, but draw the boundaries as close as possible to one another. A *leap* there certainly always is, for otherwise *indefinitely numerous* generations must fill up the gap between one species and the next, which in the limited period of development of organisation on the earth is impossible. But at any rate, the actual step will *overleap* no species lying directly in the line of development, but at the most pass at once to the *next* higher species.

Here we approach the question *how far* a species may lie from the nearest related one, or how the notion of a species may exclude, on the one hand, differences that are greater than specific, on the other hand, those that are less than specific; or, in a word, the question with regard to the *definition of the term Species.* But now every unprejudiced naturalist admits that such limitations of the idea of species are not at all found in Nature, but that it passes by very fine degrees on the one side into the notion of the variety or of the race, and on the other hand into that of the family, or however one calls the nearest higher class; that accordingly, as in all quantitatively limited notions, it is a matter of subjective caprice and of mutual agreement how far one shall extend the notion of species; that, indeed, *on the whole* there is agreement as to those anatomical and outward marks which appertain to a difference of species, but that naturally at the boundaries differences of opinion will always remain as to the application of this notion. Some have thought to settle the dispute by setting up as a criterion of the specific difference of two animals the impossibility of begetting *fertile* offspring. But, in the first place, two

animals are not necessarily very different because they can beget no fertile offspring, but they are unable to engender fertile offspring because they exceed a certain limit of difference, and this mark would accordingly not concern the *essential notion,* but only a *corollary* of the specific difference. Secondly, however, the limit of the generation of fertile offspring is just as *fluent* as the idea of a species, since only the *relative number* of procreative acts giving rise to fertile offspring becomes less, the more diverse are the animals; but no one can assert before the trial of *infinitely numerous* experiments that a procreation of fertile offspring is *impossible* between *these* two animals. Thirdly and lastly, this mark is, in fact, in not a few cases, in contradiction with the established use of the idea of species, for from animals universally recognised as specifically distinct fertile offspring have been obtained by crossing, *e.g.*, from horse and ass (in Spain), from sheep and goat, from goldfinch and siskin, from *Mathiola maderensis* and *incana*, from *Calceolaria plantaginea* and *integrifolia,* and many more; nay, even voluntary crossings, without the intervention of man, have been found to take place between wild or half-wild animals (between dog and she-wolf, fox and bitch, steinboc and goat, dog and jackal, &c.); and there are numerous mongrel breeds which yield fertile offspring indefinitely, *e.g.*, hybrids of hare and rabbit, of wolf and dog, goat and sheep, camel and dromedary, lama and alpaca, vicuna and alpaca, steinboc and goat, &c. On the other hand, the state of the case varies much with *races.* Some can, others will not at all intermingle; with others, again, fertility is actually very much limited in the course of generations. As little as the fertility of hybrids for species in general, so little can the incapability of yielding persistent hybrid races with other species be regarded as an absolute mark of *fixity* of species (in contrast to fluent). This contrast, too, is only to be limited quantitatively; for, in the first place, the question always is with *which* other

species the hybridism is attempted; and, secondly, even in the now most fixed species, sometimes, if very rarely, surprising reversions to an ancestral form make their appearance (atavism).

Accordingly if we are compelled to maintain the fluent and conventional character of the idea of species, if we must grant that there is in nature only less and greater differences, but in such abundant gradations that from the least noticeable individual shade of difference to the extreme difference between the higher and the lower organisms there takes place a transition by small stages unnoticeable by us (comp. Wallace's "Contributions to Natural Selection"), then neither in the idea of Species nor in a similar narrower or wider notion can there exist a compulsion for the Unconscious, regulating the minimum interval of its steps in the progressive development of the organisation, but the *smallest* extent of the leaps of heterogeneous generation will still only have to be sought in the magnitude of the modifying resistances and the ends pursued by the Unconscious (*e.g.*, attainment of certain stages of organisation in certain *intervals of time*). But now, as we know, not *perfect similarity*, but only *general resemblance*, is found between parents and children, for the various material circumstances bring about in generation individual variations from the ideal normal type, which *perfectly* to level would require an altogether *useless* expenditure of force on the part of the Unconscious, since these individual variations usually and in the main are neutralised *of themselves* by the inter-mixture of families. Accordingly one has not to *wonder* at the unlikeness, but rather at the likeness of parents and child; for if the Unconscious should behave in all generation within the same species in the same way, and save itself the labour of a continually neutralising interposition, the differences between begetters and begotten which would arise through the diversity of the material circumstances would be still far greater than experience now shows us. Nevertheless, we see

cases occur in which the Unconscious prefers to send monsters into the world to endeavouring to overcome the existing material difficulties.—The remaining individual differences are undoubtedly great enough to lead quickly to an essential alteration of the type, and the Unconscious need only hinder the neutralising of these differences by crossing in those cases in which the variations answer to its progressive plan, either by directly retaining them or by an external mechanism; thus, again, a large part of the expenditure of energy is in this manner saved.

That such origins of species by the summation of individual variations have actually occurred, numerous animal classes in our geological collections prove, when the collectors do not discard the inconvenient intermediate stages, which will not fit into any artificial division. "Numberless are the species of ammonites that have been described; annually new ones are added to the old, and whole cases are filled with books on ammonites. If we arrange them in a series, the differences between any two specimens are in fact so inconsiderable that everybody must undoubtedly regard them as individual peculiarities. In a dozen, however, the small differences amount to something considerable, and in two dozen the amount of the differences has become so large that no resemblance at all can any longer be observed between the first and the last. Here no specific difference any longer holds water, as soon as one has only specimens enough to illustrate the transitions" (Fraas, "Vor der Sündfluth," p. 269). Very much the same may be said of the Trilobites, and many other classes. One other quotation concerning snails. "At Steinheim (Würtemberg) there is a hill of tertiary date, which more than half consists of snow-white shells of *Valvata multiformis.* One end of this snail is extremely turreted, like a Paludina (twice as high as thick), the other has a quite flat umbilicus (discoid, its length one-fourth of its thickness). Even the most cautious savant, who employs all sorts of

distinctions for establishing a species, stands puzzled before the Klosterberg of Steinheim, and must confess that all the million forms on which his foot treads pass so easily and imperceptibly into one another, that he can only speak of one species" (Fraas, p. 30). At the lower part of the hill lie the flattest, at the upper part the most turreted forms. In the thousands of years that this hill was in process of formation the species has in this manner changed. In the same calcareous sand of Steinheim one may quite distinctly trace in the superposed strata the gradual severance of one stem-form into diverging, subsequently sharply separated species (comp. Hilgendorf's Communication in the Monthly Report of the Berl. Acad. of Sc., July 1866).

If, therefore, we may look upon it as established that the Unconscious will frequently be able to employ for the production of a new species a sum of accidental individual variations, that by no means implies that these are always offered to the Unconscious in all those directions which it intends to adopt; there always remains the possibility, that just the most important advance of all can *not* be comprehended as accidental variations, but only as *systematically varying formative processes.* I think we must even assume that *all* the elevations to *essentially higher* stages, which presuppose the formation of organs not previously in existence, cannot be explained by accidental individual variations, although the latter may have performed the main work in the thorough *elaboration of an existing type* in all directions.

How can a change *simultaneously* occurring *at different parts of the body*, which exhibits a systematic correlation in its different parts, be sufficiently understood by *accidental* variations, *e.g.*, the formation of the udder in the first marsupial, which must necessarily go hand in hand with bearing alive if the young are not to perish miserably after birth, or the correlated change of the male and female sexual parts if copulation is to remain possible? Just as little can the principle of accidental variation be regarded as

sufficient where certain animal forms exhibit peculiarities of anatomical structure, which, *valueless* for themselves, have a significance only as *intermediate transitional forms* for more highly developed stages, where accordingly one clearly sees the existence anticipated for the sake of the future purpose, *e.g.*, the first formation of a cartilaginous spinal cord in those primitive fish-forms, which by their exo-skeleton possessed perfect solidity like the Crustacea, whence they are derived, so that the primitive endo-skeleton had an importance not for themselves, but only for their later descendants, which converted the shell-cuirass into a scaly coat; or, *e.g.*, the brain of the lowest savages and primitive men, which is five-sixths as large as the brain of the most advanced races, whilst for the functions it subserves the brain of the anthropoid apes would quite well suffice, that only amounts to one-third of that of civilised man. Even Wallace literally says: "Natural selection could endow the savage only with a brain which surpasses slightly that of the ape, whilst he actually possesses one which stands a little below that of a philosopher." This circumstance, combined with the fact that hair is absent from the back of man; that hand and foot seem needlessly perfect organs for the savage, and that the human vocal organs, especially the soft palate, contain such wonderful, and, for the savage, useless latent capabilities, which only find application with higher civilisation, —all these circumstances cause Wallace to draw the conclusion "that a superior intelligence guided the development of man in a particular direction and to a definite end, precisely as man guides the evolution of many animal and vegetable forms."

The Darwinian theory has the merit of having pointed to the *summation of individual variations* in a particular direction, and the change of a type thereby rendered possible into that of another species, and of having proved the same by copious examples. It is very pardonable for a new and meritorious view when it *exaggerates its range* and

thinks to explain *everything*, when in reality it explains only *some*, perhaps even most facts, and the more interesting is the above testimony of Darwin's rival Wallace, which openly confesses the insufficiency of this theory for the explanation of the origin of *Man*.—

Let us now consider what expedients the Unconscious employs in the cases to which its sole remaining task is limited—*to retain* the accidentally arisen individual variations, and *to prevent* their normal neutralisation and obliteration by *crossing*.

The sole expedient already familiar to us is the *instinct of individual selection* in the gratification of the sexual impulse. In Chap. v. B. we saw how beauty is increased and enhanced in the animal kingdom by this means; in Chap. ii. B. we perceived the value of the same for the improvement of the human race in every respect, and cast a side glance at the possibility of similar processes in the higher classes of the animal kingdom. If this aid is almost without significance in the lower classes of animals, it increases in importance with the progress of development, acts, however, certainly always more for the *fixing and improvement* of a species in itself *than for the passage into another*. Frequently, in place of the active selection of the male, occurs a passive selection of the female, in that the inflamed males, animated by a special *fighting instinct*, contend for the possession of the female, when of course the most powerful and most active carry off the victory.

Much more thoroughly operates for the change of a species another circumstance, the which to have made good is the most signal merit of the Darwinian theory—*natural selection in the struggle for existence*.

Every plant, every animal, has in two respects to carry on a struggle for existence: first, negatively to defend itself against the enemies threatening to destroy it, as, *e.g.*, the elements, and the robbers and parasites, who would prey upon it; and, secondly, positively to compete in acquiring or retaining what is necessary for the continuance

of life, as food, air, light, soil, &c. The fleetest animals, those which know best how to conceal themselves, or least attract notice by their colour and form, will most easily be able to elude the persecutions of their enemies. Of animals and plants, those will least fall a sacrifice to the injuries of the weather, storm, frost, heat, wet, dryness, &c., which are most capable of resistance to these circumstances by their external or internal organisation. Of beasts of prey, only the most active, quickest, most powerful and craftiest will be able to escape hunger when there is dearth of food; of plants, those which maintain themselves most vigorously under like circumstances will become more luxuriant in growth than others, and, as regards the enjoyment of light, air, and rain, will attain so decided an advantage as to stifle those lagging behind. We see this struggle for existence most frequently entered upon between different species, and end with the perfect annihilation of one, *e.g.*, the domestic rat by the migratory rat. Less noticed but far more general is that among different individuals of the same species. The latter naturally causes an improvement of the species, for it is in all cases the feeblest individuals which are excluded by premature annihilation from the office of propagation, which is accordingly exercised by the cleverest and most powerful individuals for the longest period. Besides improvement, however, such a variation of the species can also take place that varieties and races, and finally new species, arise. This case can of course only occur if the external relations of life become *different;* then will natural selection favour in reproduction those individual characters which especially in the new circumstances show special vital force. The consequence will thus always be an accommodation to the external conditions of life. As now the Unconscious likewise wills this accommodation, so has it only to leave natural selection in the struggle for existence perfectly unchecked in order to see this end attained without trouble, without any special interposition.

Such changes of the outward conditions of life may take place in very different ways. In the first place, the plant or the animal may seek the same by wandering, and thus by local separation or formation of colonies protect the variety about to be formed from the threatened reversion to the ancient stock; secondly, their own homes may be sought out by strange plants and species of animals on their wanderings, and they may be compelled to test and strengthen their powers in contest with these; in the third place, by elevations or depressions the situation of the ground and height above the sea may be altered, mountains may become a table-land, plains mountain-ridges, sea-bottoms plains, coasts continents, severed lands be united, united lands be separated, &c.; in the fourth place, changes of climate, even apart from the already mentioned causes, may occur; and finally, in the fifth place, changes in the vegetable kingdom are altered conditions of life for the animal kingdom, and conversely. These relations offer a rich variety, and in most geographical districts such changes in the course of the geological development of the earth's surface have not taken place once but innumerable times.

If a plant migrates to a more uniformly moist soil, its leaves generally become less divided, more glabrous and grass-green, the flowers smaller and darker. Conversely, if a plant settles on a more porous and dry soil, its leaves become bluer, more procumbent, more divided or separated into fibres, the flowers larger and brighter, and it is enveloped in a thick hairy covering. Thus on a dry calcareous soil *Hutchinsia brevicaulis* passes into *H. alpina*, *Arabis cærulea* into *bellidifolia*, *Alchemilla fissa* into *vulgaris*, *Betula pubescens* into *alba*; on a damp soil devoid of lime *Dianthus alpinus* is transformed into *deltoides* (according to A. Kerner in the Austr. Bot. Journal). In the animal kingdom, where the altered outward circumstances do not lie so close together as the different soils for the plant, owing to the present average constancy of the

geographical and climatic relations, specific variation by natural selection has not yet been observed, but certainly formation of strongly marked varieties, especially under the unintentional influence of man, *e.g.*, origination of very different races of domestic animals (dogs, cattle, sheep, horses); and bearing in mind the above-mentioned facility of the transition from the race to the variety, it may justly be assumed that in former times, when not seldom a more rapid transformation of the external circumstances may have occurred than the human race has historically recorded, that in these earlier times many formations of new species may have come about by natural selection in the struggle for existence.—In opposition to this it is maintained that then the infinitely many intermediate forms through which one species passes into the other must be capable of demonstration in the strata, whilst yet the fossil species for the most part are just as sharply, and still more sharply, distinguishable from one another than the living. This proves nothing at all; for it lies in the nature of the case that that form must be the final form which is more capable of life than all the preceding phases, which therefore conquers, *i.e.*, eradicates, all these in the struggle for existence; but if they are soon thrust on one side by the final form, they have only had a brief existence as compared with the final form, which now, as the best adapted to the circumstances, persists at least as long as these circumstances; acordingly one cannot wonder if hitherto so few transitional forms have been found between different species. That none of these have ever been found is not true; on the contrary, both among higher, and quite specially among lower animals, an astonishing number of transitional forms are found.

In addition to the examples mentioned above (pp. 304–307) the following may be instanced. Passing from the radiate to the bilateral type, we are acquainted with two series. (1) Star-fish, sea-urchins, holothuriæ; in the latter,

what was upper and under has become back and front, and as by the arrangement of the so-called ambulacra a new upper and under side has been formed, at the same time a right and left side has arisen. (2) Corals, Rugosa, slipper-shells; in the palæozoic Rugosa, the dividing walls of the calcareous shell answering to the septa of the bodily cavity are no longer arranged regularly as in the other corals, but at least in the interposed after-growth always at the side of a primary dividing-wall, so that in respect of the latter a bilateral type arises. When the Rugosa develop an operculum in addition, there arises the slipper-shell, hitherto reckoned to the Conchifera.

As the Australian and New Zealand fauna is in general to be regarded as an arrested representative of an older geological period, it has recently furnished us in the New Zealand bridge-lizard with an animal which, in certain characters (biconcave vertebral axis after the fashion of the Saurians, sexual apparatus without male organ), has remained at the stage of the fish-salamanders, but in other respects has developed into the external form of a lizard, which, in a remarkable manner, unites the normal characters of the tortoises (absence of teeth), crocodiles (immobility of the four legs), and snakes (movable rami of the lower jaw united by a ligament, and participation of the ribs in locomotion).

Huxley traces back the pedigree of the horse of the modern period step by step through the horses of older times, through Hipparion and Hipparitherium to Plagiolophus, which latter is already a species of the genus Palæotherium (the common ancestor of the hoof-horses and pachyderms), and in a similar manner the musk animals of the present day through the Cainotherium of the Miocene to Dichobune from the Eocene as primitive form. Gaudry has found in the Miocene strata of Pikermi in Greece "the group of the *Limocyonidæ*, which is intermediate between bears and wolves; the genus *Hyænictis*, which unites the hyenas with the civet cats; the

Ancylotherium, which is related both to the extinct mastodon and to the living pangolin or scaly ant-eater, and the Helladotherium, which unites the now isolated giraffe with the stag and the antelope" (Wallace).--A rich world of forms reveals itself to us in the contemplation of the genus Crocodile. The crocodiles of the cretaceous period are different from those of the older tertiary period, and these again are just as different from the crocodiles of the younger tertiary strata as from those of the present day. Nevertheless, the differences between one form of the series and another are so slight that they are only discernible by the eye of the connoisseur.—Reptiles and birds seem to be two of the most widely separated orders, and yet the Soolenhofen slates have, on the one hand, yielded a bird (*Archæopteryx*) which by its elongated form, unfused bones between the hands, and strong claws on the wing-fingers, far more closely approaches the reptiles than the ostrich-like birds of the present day; and, on the other hand, laid bare a reptile (*Compsognathus longipes*), that not only (as probably most Dinosauria did) went exclusively on its hind-legs, but also in the parts found is remarkably similar to the Archæopteryx. The footprints of reptiles and birds of that time, interconnected through all conceivable shades, lead us to expect that we shall yet find more remains of intermediate forms, which will bridge over the hitherto existing differences.

When one considers that almost every year brings to light new and surprising intermediate forms, and that already the old zoological classification has become absolutely untenable, the appeal of the opponents of Darwin to the want of intermediate forms may, in fact, be looked upon as a lost battle. One may at length regard it as an established fact that, if one traces backwards the pedigree of the now living kinds, not the species, but the genera have their corresponding representatives in former geological periods, and that these representatives of different genera and orders are distinguished in still

remoter epochs only as now different species of a genus or order. Thus Owen in his "Palæontology" assures us "that he never let slip a good opportunity of communicating the results of observations, which prove the *more generalised* structures of extinct animals, compared with the *specialised* forms of more recent animals." (Comp., as supplement to this and the last chapter, Ernest Häckel's excellent popular work, "The Natural History of Creation.")

As the transition from water to land animals, so also that from water to land *plants* takes place through amphibious organisms. The anatomical structure of a stalk and leaf living in water must, to be capable of life, be at least as different from one living in the air as gills from lungs. Thus *Utricularia vulgaris* consists of two different organisms as it were, one of which is represented by the part of a plant living under water, the other by the branches bearing the blossoms rising into the air. In each of the three great divisions of the vegetable kingdom (Cryptogams, Monocotyledons, Dicotyledons) there are atmospheric plants (*e.g.*, *Marsilia, Sagittaria, Polygonum*) which prove their origin from aquatic plants by the circumstance that when one puts them under water their young shoots send forth stalks and leaves with the anatomical structure of aquatic plants, which more aërial plants, that have, as it were, forgotten their more remote ancestors, do not do.

Although we have thus recognised natural selection in the struggle for existence as an important contributory to the origin of new species, yet I can by no means grant that with this principle the history of the origin of the organic world is at all exhausted. Not because this hypothesis would not be quite compatible with our presumptions concerning the essence of the Unconscious,—for if this at all facilitated matters, it would be quite natural for it to concern itself only with the individual, and leave the progress of species to go on quite mechanically by itself,—

but only, because the facts to be explained are far *more numerous* than the range of the principle of explanation, can I not deem the same sufficient.

In the present general interest in the Darwinian theory and the frequent over-estimate of its reach, it may reward us to spend a few moments in considering to what extent it appears to be insufficient (comp. also vol. i. pp. 287–289).

If we assume that by the struggle for existence alone organisation has developed from the primitive original cell to its present pitch, that thus every more highly developed species has only proceeded from the proximate lower one owing to its having possessed a higher degree of vitality, the consequence necessarily follows that *every* higher species on its own ground surpasses *every* lower species in vitality, and surpasses it indeed in a so much higher degree, the greater the interval of their stages of organisation, since indeed with every new advance in development a new accession of vitality results, and these increments mount up. This direct consequence is now, however, in complete contradiction with the facts of the case, which yield the result that *every stage of organisation*, taken as a whole, *possesses the same vitality*, and that only *within* the same stage of organisation *the different species or varieties* are distinguished by a greater or less vitality; which harmonises also with the circumstance that the struggle for existence in the competition for the conditions of life occurs *the more frequently, is the more embittered*, and the more certainly terminates in the complete *annihilation* of the one side, *the more related* are the competing species or varieties, whilst the species dwell beside one another *the more peacefully*, and *render more assistance* in the preservation of life, the farther they stand from one another in the pedigree of organisation. In *every* locality, if we disregard the difference of land and sea, *all* the stages of organisation are found represented, and all thrive excellently well beside one another; whereas, according to the Darwinian theory,

taken strictly, *at every locality at least only one species*, and that the *highest*, must remain, because this surpasses all others in capacity of living under those circumstances. That is, however, just what is remarkable and grand in Nature, that every final type of a class is *so perfect in itself*, that one may indeed go beyond it, yet only by adding new anatomical-morphological structural details, but not by enhancement of the physiological functions or of its accommodation to the conditions of life, for both are *finished*. Had not really all stages of organisation on the average the *same* vitality, in the struggle for existence waged for millions of years all lower species must have long ago been completely superseded by the higher ones, whereas the fossil relics show that, under the most diverse circumstances, there have been relatively few classes of animals and plants which at the present time have not their perfectly life-capable representatives.

The capacity of accommodation of a class, and even of a species, *within its own limits*, is, in general, far greater than one thinks. This follows partly from the continued existence of not a few species from their origin to the present time, where, in truth, the environment has sufficiently changed, partly from the great *circles of distribution* of the classes and species of the present day. Several classes people the whole earth or all seas; many species have a distribution over twenty to thirty degrees of latitude. Lastly, it is proved by the *capacity of acclimatisation* of species, which often borders on the miraculous, if the instances only range over sufficient periods of time. Thus the common peach-tree, which is probably an Indian plant, would not thrive in Greece in the time of Aristotle, whereas we get good peaches at the present day in North Germany. Accordingly, the capacity of accommodation of species within their specific limits, partly by internal physiological changes that are withdrawn from observation, partly by the formation of varieties, is so great, that they are quite well able to adapt themselves to a

very considerable alteration of the climate, &c., *without* degenerating. Extremely numerous are the examples in which closely related species dwell beside one another in a locality without noticeable change of their relative number, and yet the struggle for existence is most violent precisely within the specific limits between varieties and still slighter differences. Should, however, this struggle occur or be absent in a particular case, yet in no one of the cases here considered will a transgression of the limits of the species show itself. Lastly, there will not easily happen so great a change of external circumstances, nor a species pass under such different circumstances, that the capacity for accommodation and acclimatisation within the limits of the species recognised by us as so considerable would not suffice for these claims. But if subsequently a second change of the conditions essential to life occurs at the same place, it will mostly be a *return* to the formerly existing circumstances; then the species will simply adapt itself to this change by repeating the former stages in a reverse direction (as is observable in the before-mentioned experiments with transplantation of plants to different descriptions of soil), and there is again no occasion for the passage into a *new* or a more remote species. If, on the other hand, the second change of the conditions essential to life is in the same direction, the species will more easily become extinct at this place (*e.g.*, the fauna of the European glacial epoch), than pass into a new species, which is more remote from its stock than its previously attained standpoint.

How could the commencement of a new path of development, after an exhaustive working through of the last attained stage of organisation, and perhaps a pause of thousands of years, be intelligible from the struggle for existence? We have seen that it is precisely the more imperfect forms of the preceding stage from which proceeds the development of the higher stage. Apart from the already mentioned circumstance that these more imper-

fect forms of all the species of the lower stage remain *longest* unchanged, thus, according to Darwin's view, must be the most stable and the least capable of an individual variation and further advance; apart also from this, that, if *only* the struggle for existence had created the later forms of the lower stage, these primitive forms must have *all already changed for the same reason and by the same process* into more developed forms of *the same* grade, or indeed must long ago have been *annihilated* by the more capable forms in the immeasurable intervals; apart from all this, one would think that, if from some unknown cause these primitive forms that have maintained themselves had actually received an impulse to further development, that then through the struggle for existence always only a *repetition* of the development *lying far nearer* to them into the already existing higher forms of the *same* stage must have been called forth, rather than a transition to the morphologically diverging higher stage, since notoriously the higher forms of the lower stage show themselves *also* under the new circumstances mostly *just as capable of life* as the species of the higher stage. This consideration obtains the more weight the more geology attains to the knowledge, that the climates and vital conditions of earlier geological periods (with the exception of the first times after the cooling of the earth's surface) always far more closely resembled those of any localities whatsoever of the present surface than the older geology, dreaming of catastrophes and vast revolutions, assumed.—Most unintelligible on Darwinian presuppositions is the passage from the unicellular to the multicellular organisms, since it is just the incredible indifference of the unicellular plants to their environment, *i.e.*, their capacity of accommodating themselves even to the most varied circumstances by relatively slight modifications, that makes the want of a motive for the conversion into compound types so very conspicuous.

Lastly, if one asks positively of what kind are the

useful adaptations that arise through the struggle for existence, the answer is: They are *exclusively of a physiological* nature. Here lies the proper limit of the Darwinian principle clearly before our eyes; it is sufficient so long as it has to do with *the elaboration and transformation* of an existing organ for a *physiological* function *required by the circumstances;* it leaves us in the lurch when a *morphological* change is to be explained. That morphological changes are also possible by the addition of individual variations is not to be doubted, and Darwin proves it by many examples, especially by the skeleton of pigeons; but in all the cited cases an *artificial* breeding takes place. A couple of teeth, of vertebræ, or a toe more or less, a vertebra formed thus or thus, are for the struggle for existence perfectly *indifferent*, and yet these are the marks by which zoology *most surely* distinguishes species; the struggle for existence, on the contrary, can obviously only produce a change in such elements of the organism as have some importance for the same, and will so much more energetically work for their transformation the greater their significance for the struggle for existence. The struggle for existence brings it about that one and the same organ (in morphological reference) undertakes the most diverse physiological functions, whereas in species, placed under similar vital conditions but of different origin, often the same performance is carried on by organs morphologically quite different. (Thus, *e.g.*, the parasitic mites living on animal hairs have an organ for clinging to the hair, on which they roam; this is, however, represented in Listrophorus by the transformed lip, in Myobia by the more advanced pair of feet, in Mycoptes by the third, or also at the same time the fourth pair of feet.) With all these changes, however, the morphological fundamental type remains unaltered and untouched.

In the animal kingdom the thorough-going acknowledgment of the assertion that only the physiological but not the morphological changes are decisive for the degree

of vitality, is encumbered with difficulties, because the occurrence of *sympathetic* changes frequently causes morphological changes to go also hand in hand with the physiological change of an organ, often at quite other parts of the body, which phenomenon, springing from special laws of organic plastic activity of the Unconscious, is altogether calculated to confuse the judgment. Our assertion, however, appears quite clearly justified in the vegetable kingdom. The competent judgment of Nägeli ("Origin and Conception of the Species of Natural History," Munich, 1865, p. 26) on this point runs: "The highest organisation manifests itself in two moments, in the most varied morphological articulation, and in the most thorough division of labour. Both moments usually concide in the animal kingdom, since the male organ also possesses the same function. In plants, however, they are independent of one another; the same function can be undertaken by quite different organs; even in closely allied plants the same organ can carry on all possible physiological functions. Now it is remarkable that the useful adaptations which Darwin instances as regards animals, and which one can discover in quantities for the vegetable kingdom, are exclusively of a physiological nature; that they always show the improvement and transformation of an organ for a particular function. A morphological modification in the vegetable kingdom which could be explained by the Darwinian theory is *unknown* to me, and I do not even see how it could take place, since *the general processes of formation are so indifferent as regards physiological performances.* The Darwinian theory requires the assumption, confessed by itself, that *indifferent characters* should be *variable;* the useful, on the contrary, *constant.* The purely *morphological* peculiarities of plants must accordingly most *easily,* the relations of organisation conditioned by a definite *function* with the greatest *difficulty* be capable of alteration. Experience shows the *contrary.* The relative positions and the co-ordination of the

cells and organs are both in nature and under cultivation the most constant and persistent marks. In a plant that has opposite leaves and quaternary corollas it will be far easier to produce all possible functional variations in the leaves than a spiral arrangement of the same, although these, as altogether indifferent for the struggle of existence, could have attained no constancy through natural selection." Had Darwin borrowed his examples more from plants than from animals, he would perhaps himself have perceived the limitation of the action of the struggle for existence. It is clear that the latter can only alter the behaviour of organisms to the external conditions of life, *i.e.*, their functions, and the organs only so far as the functions are dependent upon them, but that it can have no influence on those qualities of organisms, whose alteration as regards the relations between the organisms and the external world brings to the former neither advantage nor disadvantage. To the latter attributes belong, however, in plants, and even in animals, most of the *fundamental principles of the morphological type, e.g.*, the *numerical proportions* selected for the same.

We have here found a confirmation of our preceding assertion, that natural selection in the struggle for existence is an extremely valuable aid for the exhaustive *elaboration* of an existing type within the same organisation, but cannot serve for the explanation of the *passage* from a lower to a higher stage of organisation, since a raising of the morphological type is always connected with such. In his most recent researches (Botan. Mittheilungen, 1868) on the behaviour of individuals of one and the same species of plants, on the one hand under the same, on the other hand under different external circumstances, Nägeli comes to the conclusion that the formation of unlike varieties occurs just as much under like, as the formation of like varieties under unlike circumstances; whence we may conclude as follows:—(1.) The external circumstances do *not* suffice

as *sole* cause of the formation of varieties, but presuppose as second favourable condition a quality inherent in the plant, a "tendency to vary" (and that, too, in definite directions). (2.) But without a doubt this inner quality of the plant can *by itself* suffice to introduce, even under *similar* external circumstances, a formation of *different* varieties. This confirms our preceding assumptions. Among zoologists, quite recently Kölliker has declared for the hypothesis of Nägeli, that the transformation of existing organisms by the accidental change of external circumstances yields in importance and range to the tendency inherent in the organic world of development from internal causes according to preordained laws, no matter by what name this creative principle, this productive activity is called; in this sense he desires his former announcement of "heterogeneous generation" (comp. above, p. 301) to be interpreted.[1]

Before quitting the subject, a special expedient may be mentioned, the *actual* use of which indeed has not hitherto been proved, whose possible application is, however, so interesting, that I will not withhold from the reader a short indication of the same.—Until fifteen years ago, it passed as a scientific axiom that, of all animals that undergo a metamorphosis, only the most perfect state is transmissible. Now, however, we already know three exceptions. The young of *Leptodera appendiculata*, a parastic tape-worm living in the foot of the common slug, represent the larva form of their parents; with abundant food and moisture they do not, however, undergo the chrysalis change, but propagate among one another any number of times without diminution of fertility. A second example is that of Cecidomyia,

[1] Morphologie und Entwickelungsgeschichte des Pennatulidenstammes nebst allgemeinen Betrachtungen zur Descendenzlehre, von A. Kölliker. Frankfurt a M. bei Winter, 1872, pp. 26–27, and 30 ff. The whole general introduction to this memoir is a very interesting contribution to the theory of Descent and to the criticism of the theory of natural selection.

already mentioned in the last chapter (p. 281). A third, the Mexican Axolotl, whose identity with the likewise long-known Amblystoma was established through the circumstance, that in aquaria the metamorphosis of the Axolotl into Amblystoma was directly observed in certain cases. The larva form of this animal has external gills like the Proteus, which undergoes no metamorphosis, whereas the perfect form is without gills. Now here manifestly the larva form is the older and original, and one must assume that, under favourable circumstances, one of these salamander-like animals underwent a metamorphosis for the first time, a change which was facilitated in its descendants by inheritance. The Axolotl now has not attained the next stage of development, where the metamorphosis, as in most Amphibia, is a regular phase of the life-history. As, however, the progress from the fish-salamanders to the higher Amphibia takes place by the capacity for metamorphosis becoming by transmission normal, one may imagine the further progress from the Amphibia to the reptiles brought about by this, that under favourable circumstances an Amphibian acquires the power of bringing forth young in the final form, or, in other words, of transferring the metamorphosis to the embryonic life. The preceding reflections on *metamorphosis* may be extended to the *alternation of generations* (comp. Häckel), but hitherto data are too much wanting for the attainment of certain results on this subject.—

If we briefly epitomise the conclusions of this chapter, there results from the principle of always attaining the proposed end with the least possible expenditure of energy the following:—

(1.) The Unconscious in the production of higher phases of organisation *foregoes spontaneous generation*, and prefers to employ already *existing* forms of organisation.

(2.) It does *not directly* transform the lower form into

the higher, but shapes the latter from a favourably constituted *germ* of the lower kind.

(3.) It takes as small steps as possible, and forms the larger differences by *adding together* a number of *small* individual differences.

(4.) It makes use of the individual variations *casually* arising in generation, *so far as such are present, in those directions which answer to its own end.*

(5.) For maintaining the variations arising, no matter how, it makes use of *natural selection* in the struggle for existence, *so far as they are of greater service to the organism.*

(6.) The Unconscious must (apart from its continuous interposition in every organic formation, thus also in all generation) display a direct activity in the progressive development of the organisation: on the one hand, in order with new germs *to call forth* the variations that do *not accidentally* arise; and, on the other hand, to *preserve* from being *again obliterated* by crossing the variations that have arisen, which belong to its plan, but *do not aid the competition* of the organism *in the struggle for existence.*—

Lastly, it may be remarked that, for the same reason that no spontaneous generation takes place after sexual reproduction has been rendered possible, the development of a new species from a lower one *only* takes place if the species *does not yet*, or at least not at this locality, *exist.* The development of a new species would thus have to be conceived as a process occurring only *once*, or at least only *a few* times, at different localities, under similar circumstances, which is empirically confirmed by the favourable results of the most recent investigations concerning the places of origin or centres of diffusion of the species of plants and animals; whilst, on the other hand, after a new species has once arisen, the similar, or but slightly modified reproduction of the same, is the normal and ever-repeated process, till the possible destruction of

the species. (According to Darwin, the process of formation of certain higher species from their lower primitive forms must be repeated as long or as often as the external conditions which called it forth the first time last or occur afresh; but this requirement can hardly be brought into harmony with the facts of experience, since it must have recourse for the purpose to the further improbable single appearance of shortly enduring and never recurring circumstances.) However long, then, one may imagine the process of developing a new species to take (hundreds or thousands of years), it will still be an *inconsiderably small* part of the space of the *essentially similar* continuation of the formed species (some hundreds of thousands to ten millions of years).

This is a *second* reason, in addition to those already mentioned above, why so many more similar fossil specimens with distinct specific characters are found than those, which exhibit the transitional stages between closely allied species.

XI.

INDIVIDUATION.

1. *Possibility and Manner of Effecting Individuation.*—If the Essential Being that manifests itself in the world is sole and indivisible, whence comes the plurality of appearing individuals? whence the singularity of each of the same? what is its object? how is it possible?

The answer to these questions has always been a cardinal difficulty for every explicitly monistic philosophy. It was, in particular, the rejection or insufficient answering of the same that always paved the way to the relapse of Monism into a realistic polyism or pluralism (*e.g.*, Leibnitz after Spinoza, Herbart after Schelling and Hegel, Bahnsen after Schopenhauer). Spinoza ignores the above questions as much as the ancients; he dogmatically declares individuals to be *modi* of the One substance, but the development of the *modus* from substance, or the demonstration why each *modus* is distinguished from another and forms a unique existence, he altogether fails to supply. Subjective idealism (Kant, Fichte, Schopenhauer) imagines it has done enough when it declares plurality in the world to be *subjective* appearance, arising through the forms of subjective intuition—space and time—unconcerned that, in the first place, the difficulty is only transferred from the objective to the subjective sphere, but remains just as unsolved here as it was there; and that, secondly, the question remains unanswered how this unique percipient individual, which discriminates itself from every similar individual, is possible according

to monistic principles, since either, if it is conceived as one among many, the incomprehensible real plurality is again inconsistently introduced, or however in the other case, on the hypothesis of Solipism, again the *limitation* of this whole and sole perceiving subject remains incomprehensible.

The latter side of the question was certainly seen by Schelling (Werke, i. 3, p. 683): "But now the problem is just this, How from an action of the absolute Ego the absolute Intelligence, and how again from an action of the absolute Intelligence the whole system of limitation, which constitutes every individuality, may be explained." The answer follows on the next page: "If now the intelligence remained one with the absolute synthesis, there would indeed be a universe, but there would be no intelligence. If there is to be an intelligence, it must emerge from that synthesis in order to produce it again *with consciousness*; but this again is impossible without the addition of a special or second to that first limitation, which now no longer can consist in this, that the intelligence in general perceives a universe, but that it perceives the universe precisely from this fixed point."

I confess that I should envy that man who was able to pick out the truth from this passage and its connections, if he did not already possess it.

As for the Hegelian system, our question unmasks one of its weakest points. According to Hegel, the concept is the sole substance; it is nothing but the concept, and the process of Nature is an objective notional dialectic. On the other side, he himself confesses that the Notion just as little as the word is able to grasp the simple This in its singleness—*this* individual, which as such one can only show, but not describe. Individual singleness stands outside the range of the concept, and therewith outside that of the Hegelian system, if this will be consistent with itself. Plurality as real phenomenon cannot explain the same, for one can see no reason why, on the dismission of the absolute Idea into Nature, every phase of

development of the logical process should have more than *a* corresponding phase of development of the process of Nature. The dialectical self-splitting of the one into the many yields indeed plurality as pure concept, but not plurality as accident of real phenomena; for Hegel would never have maintained the self-disintegration of a half-crown into many half-crowns or sixpences, and as little as in this real instance would the self-division of the one be applicable to a self-splitting of a world-soul into many real individuals. Real plurality is *more* than the idea of plurality; it is a sum of individuals, none of which resembles the others, each of which is a This, nameless, sole (as I am nameless, sole), each of which is attainable by no conception, but only by perception.

Whoever has not felt the need and the difficulty of comprehending individuation from the point of view of Monism may securely pass over the first half of this chapter; he would find no interest in it. For him, on the other hand, who hitherto has kept aloof from Monism precisely on account of this more or less distinctly conscious difficulty, and has put up with the pluralism of the real phenomenal world as an ultimate, for him lies in this chapter, taken in conjunction with Chap. vii. C., the centre of gravity of the present book. In fact, pluralism and individualism have a warrant which cannot be under-estimated with impunity; as every improperly neglected moment always revenges itself by a reaction exceeding a justifiable limit. With Fichte the conscious individual still occupies the foreground, but its significance is not that of a characteristic *sui generis*, but that of the *type* of a limited absolute intelligence, which is revealed still more distinctly in Schelling; whilst with Hegel even this type is volatilised into the abstract category of the subjective spirit. As concerns the other side of individuality as separate natural existence, with Fichte there is no mention of it at all, since Nature is to him only subjective illusion; with Schelling and Hegel, however,

there is plenty of reflection and speculation about abstract natural potencies and their dialectical play, but the significance and the right of the natural individual as such is perfectly ignored, when it is not expressly denied. In the reaction against this one-sidedness of abstract idealism and in the re-erecting of the standard of a realism recognising the plurality of things-in-themselves lies the historical authorisation of the Herbartian pluralism; its *truth* lies in the assertion *that the right of plurality and individuality reaches just as far as reality of existence in general;* its *untruth* lies in *failing to perceive the phenomenality of all reality and all existence.* Subjective idealism had had the right inkling that reality is only phenomenality, but it had distorted and disfigured this thought by recognising no other than subjective phenomenality, so that plurality sank to only subjective illusion. When, however, one has perceived the existing to be objective appearance or manifestation of the super-existent (*i.e.*, independent of the apprehending conscious subject), or existence of the subsisting, then are reality and (objective) phenomenality perceived to be identical notions; then one, however, also knows that the plurality, whose right reaches as far as the reality of the existing world, has just as this only a phenomenal, not transcendent-metaphysical validity. Schopenhauer obviously steers towards this standpoint, but his adhesion to subjective idealism prevents him from clearing up his notion of the individual objectification of the Will and developing it into that of objective phenomenality; and the want of this latter notion leads him again, in contradiction with his own principles, to allow plurality and individuality to reach *also* into the transcendent-metaphysical (intelligible individual character and individual negation of the will). From this point it was possible for Bahnsen to set up a system of ethological individualism or metaphysical will-pluralism and to reject Schopenhauer's Monism, because he saw through the contradictions of Schopenhauer's system, and yet did not see how otherwise

to save the right of individuality. The notion of objective phenomenality introduced by Schelling and Hegel into philosophy, and emphasised especially by Frauenstädt amongst the adherents of Schopenhauer, explains, however, everything that has to be explained in a more satisfactory and less one-sided fashion. Whilst I defend and uphold the uniqueness of the individual and its right within the real world as against abstract Idealism and Monism as energetically as Herbart, I just as decidedly dispute every claim of the individual to a transcendent-metaphysical validity extending beyond the world of objective appearance as unfounded, unwarranted, and presumptuous, and deem even that Pluralism which *flatly denies* all transcendent-metaphysic behind the real world to be *more endurable* and *philosophical* than that which inflates the individual to an eternal transcendent essentiality or substance; for the former merely *foregoes* all metaphysic in favour of physics, but the latter has a *false* metaphysic, and that is far worse. As certainly, however, as the former Pluralism satisfies all the justifiable claims of individuality, so certainly does the philosophy of the Unconscious also do this, which accords to the individual precisely *the same* authority as that unmetaphysical Pluralism, only that it adds to this theory of the real world and its plurality a metaphysic (and indeed, what is here indifferent, monistic metaphysic). The philosophy of the Unconscious is thus *the genuine reconciliation of monism and pluralistic individualism,* in that it recognises each of the two aspects as authorised, assigns each the sphere appertaining to it (metaphysical or physical-real), and *unites both in itself as sublated moments.*—

From the previous results of the foregoing chapters the solution of the question placed at the head of this chapter follows without difficulty. We will, however, leave the question, Why is there individuation? for the present undiscussed, and consider only the other, *How is it possible on monistic principles?*

Stated in general terms the answer runs: "Individuals are objectively posited phenomena, *i.e.*, they are willed thoughts of the Unconscious or particular will-acts of the same; the unity of the essence remains unaffected by the plurality of individuals, which are only *activities* (or combinations of certain activities) of the one Essential Being." But to render this very general answer plausible, we must enter into details, and once more picture to ourselves by what combination of what activities an individual arises, and how far each individual must necessarily be different from every other, or unique.

The individuals of higher order arise, as we saw (C. Chap. vi.), by composition from individuals of lower order, with the addition of new activities of the Unconscious directed upon the resulting compound; one must therefore begin with understanding individuation in the individuals of lowest order, *i.e.*, the atoms. Here, according to the present state of the scientific hypotheses, only two different kinds of individuals, repulsive and attractive forces, are to be distinguished; within each of these groups there obtains perfect resemblance between the individuals, with the sole exception of their *place*.

Only because the atomic forces A and B act differently on the same atoms are they different, and because the lines of action of A and the lines of action of B have distinct foci, this difference is shortly expressed as A and B occupy different places, whilst in strictness force occupies no place at all, but only its effects are locally discriminated. But if one imagined two equal atoms united in a mathematical point, they would not only cease to be *distinguishable*, but even to be *different*, for they would cease to be *two forces*, and would be *one* force with double the strength.

Here then the application of the answer given above in general terms is in itself clear and intelligible: the Unconscious has at the same time different will-acts, which are distinguished by their content so far as the space

relations of their effects are differently represented. But when the will realises its content, these many will-acts enter into objective reality as so many force-individuals; they are the first primitive manifestation of Essential Being. Since every effect of atomic force is represented by the Unconscious as different from every other, thus single, its realisation is of course different from that of every other atomic force, thus likewise single, without prejudice to the circumstance that it is in its nature indistinguishable; the intuitive imagination of the Unconscious distinguishes it, however, without thought in its space relations, as well as one recognises by perception the right glove as right, which no notion and no combination of concepts is ever able to do.

Here we may also remember what was said (C. Chap. i. 3 and 4) on the way in which the Unconscious forms representations. The concept is a result of a process of separation or abstraction, but the Unconscious always apprehends the totality of its matter of representation without condescending to a separation of parts within the same. The concept is a product of discursive thought, a sorry make-shift due to its weakness; but the Unconscious thinks not discursively but intuitively; it thinks concepts only so far as they are contained in intuition as integral and undifferentiated elements, consequently it cannot be surprising if among the intuitions of the Unconscious there are such from which, even for discursive thinking, no concepts can be abstracted; as, *e.g.*, the perception that the actions of the atomic force A must be so directed that their lines of direction should intersect *in this point here*, those of the atom B, *in that point there*. Consequently, in the case of atoms, the difference and singleness of the individuals is, in fact, reduced in the most direct manner to the difference and singleness of the ideas which form the content of the acts of will of which the individuals consist, in such wise that to each individual there corresponds a single act of will.

Unfortunately Matter has never been comprehended as a combination of will-acts of the Unconscious, so that the sole example where the comprehension of individuation is really simple was not available. In all other cases, however, where we have to do with individuals of higher order, the comprehension of individuation is rendered difficult by a complicated combination of will-acts, changing every moment, forming the individual.

If we dwell a moment more upon the atomic forces of matter, and inquire respecting the medium whereby individuation in this sphere becomes possible, respecting the so-called "*principium individuationis*," undoubtedly the combination of space and time can alone be so characterised; for we saw that the atomic forces A and B, equal in thought, are only distinguished by the different *space* relations of their effects, improperly and briefly expressed by their *places*, and only omitted at the time to add to "their effects:" "at the same point of time." This addendum is, however, necessary, for completeness' sake, because indeed *with the time* the place of an atom may change. The phrase *principium individuationis* is not, however, well chosen. It should be *medium individuationis;* for the *authorship* or *origin* of individuation, just as that of space and time, belongs solely to the Unconscious, namely, the *ideal* difference and singleness of the atoms to the idea, their *reality* however to the will.

It might now appear, on superficial consideration, that here only the same thing is said as by Schopenhauer, who also claims space and time as the *principium individuationis.* However, between his and my conception there exists the fundamental difference, that with Schopenhauer space and time are only forms of *subjective cerebral perception*, with which the (speculative) transcendent reality has nothing at all to do; that for him, therefore, all individuation is a *mere* subjective appearance, to which corresponds no reality outside the cerebral consciousness.

According to my conception, on the other hand, space

and time are just as much forms of *outward reality* as of the subjective cerebral perception; certainly not forms of the (metaphysical-) transcendent SUBSTANTIAL BEING, but only of its activity, so that individuation has not merely an apparent reality for consciousness, but a reality *apart* from all consciousness, without thereby curtailing plurality of substance.

Here is the salient point for understanding the conception of objective appearance in opposition to the mere subjective appearance of Kant, Fichte, and Schopenhauer. The possibility of a plurality and individuation independent of the conscious subject perceiving it depends on the condition, that the *principium* or *medium individuationis* is a datum independent of the perception of the conscious subject, *i.e.*, that space and time are not merely forms of intuition, but also forms of existence of the *of itself* existing (*i.e.*, independent of the representation of the conscious subject). Whoever denies this must necessarily also deny that another plurality and individuation than that posited by the conscious idea exist—must then deny that his wife and himself are *two individuals*, independent of his mental picture. But now the essence of matter is only will and idea, and moreover one as the essence of all being; plurality only lies in action, and is real plurality only so far as at the same time a collision of will-acts takes place (one atom would be no atom). It is herewith, however, at the same time implied that plurality and individuation (thus also reality, presence, and existence) reside only in the *manifestation* of metaphysical force (comp. above, pp. 242–243), only in the action of substance, only in the *manifestation* of the hidden ground, only in the *objectification* of the will, only in the *appearance* of the one Essential Being. Plurality is therefore, on the one hand, not mere *subjective* appearance (of being in the abstract); on the other hand, however, still mere appearance of the one essence, therefore we call it *objective* appearance. In like manner we call space and time as

principle of individuation of the plurality of the objective appearances, objective forms of phenomena.

Had not Schopenhauer unfortunately leant too much on Kant, he must of necessity have enounced the true view; whereas, as it is, he persists in the statement that the whole diversity of the world only acquires existence *through* the first animal consciousness and *in* its perception. Only thus much truth lies in this, that objective manifestation also, in order to be real, *i.e.*, to emerge from the unconsciously ideal composure into external reality, needed an opposition between *different* acts of will; error creeps in only when the union of one of the affected will-acts with a *conscious* subject is required as condition. If we eliminate this unwarranted requirement, the simple truth remains that the objective phenomenon which *rests on* the individuation of the one into the many, is also only possible *in* this plurality without self-contradiction.

Moreover, there lies in Schopenhauer's assertion that the world of individuation comes into existence only with the first conscious subject perceiving it an incorrect assumption, as if the subjective appearance which the intellect spontaneously constructs out of the material processes in the objective appearance of its brain were the immediate and true appearance of the Essential Being, whilst it is, in fact, very unlike, nay, in many points perfectly heterogeneous to, the objective phenomenon (*i.e.*, the sum of natural individuals as they are, independently of being perceived). Only the objective phenomenon is the true and direct manifestation of the Essential Being; the subjective phenomenon, however, is a subjectively coloured and distorted copy of the objective phenomenon. To gain an *adequate* thought-picture of the objective appearance by eliminating that which merely appertains to subjectivity, and by the scientific investigation of the objective causes of the particular given affection of the subject, is the endeavour and problem of Natural Science (*Physics* in the widest sense), whilst *Metaphysics* endeavours to

cognise the Essential Being according to its attributes and its mode of revelation, which underlies the objective appearance (natural things). Thus, *e.g.*, matter as subjective phenomenon is matter with its palpable sense-qualities; as objective phenomenon, a definitely extended complex of punctual atoms; as essence, that which underlies this phenomenon, the All-one Unconscious with the attributes will and idea. The first is the sensuous, the second the physical, the third the metaphysical definition of matter.

The second point wherein I depart from Schopenhauer is this, that he knows no atoms at all, wherefore, properly speaking, he cannot think anything by "individuation of matter," because he cannot say what are individuals of mere inorganic matter. The third is, lastly, that he naïvely regards organic individuals as just as much direct objectifications of the will as I the atomic forces, whilst I, following physical science, suppose the same to arise by the composition of atomic individuals.

With Schopenhauer, therefore, space and time are for organic individuals *principium individuationis* in the same sense as for atoms, whilst for the individuals of higher order I can only admit as direct *principium individuationis* those individuals of lower order of which the former are compounded, if also space and time, of course in the last resort, always remain indirect *principium individuationis*, since indeed the whole material world is built up out of atomic forces. Only his subjective idealism, to which matter, as also the organic body, must be a merely subjective appearance without corresponding reality beyond consciousness, could lead Schopenhauer to explain the body as a *direct* objectification of the individual will—an assertion which, in presence of the facts of the extremely defective control of the will over the body and of the change of matter, which is the first condition of all organic life, can by no means be upheld. Experience teaches us, in the first place, that the matter which constitutes our body is something foreign and in-

different to us; that it is being continually thrown off and replaced by other matter; secondly, that the matter of our body, in contrast with the mind, forms in the same way as the will of other persons a quite real power, with which one must reckon in order to be able to control it so far as is practically necessary, to which one, however, immediately succumbs as soon as one either thinks to be able to neglect it, or makes demands upon it to the enforcement of which the psychical power is unequal. Experience, in a word, teaches that matter behaves as an already pre-existing, to a certain extent indifferent, crude building material, which the plastic individual soul attracts to and repels from itself according to its needs, whose laws it must, however, respect, and dare not attempt to infringe with impunity.

Bearing in mind the results of Chap. ix. C., according to which the Unconscious realises life wherever the possibility of life offers itself, and considering that organic life is only conceivable under the organic form and requires matter for its realisation, it is evident that these are the conditions determining the individuation of organic life; for it must for its realisation make use of a complex of atoms enclosed within certain limits of extension, and put these into their appropriate situations and groups, so as to render possible the organic interchange of matter; the atoms employed, however, are individuals, *i.e.*, each of them is *single*, consequently the organically constituted complex of these atoms, and the activity of the Unconscious exclusively directed to it, which together make up the higher individual, must be *single*.

Thus, as already above suggested, the lower order of individuals turns out to be *medium individuationis* for the higher.—There would be no special gain for the purpose of this inquiry in going deeper into evolution, and showing in detail how, for the many-celled individuals, the cells are just as much a power whose laws must be respected as the matter for the cells, for in the body a change of *cells* just

as much takes place as a change of *matter*, if also much more slowly, &c. The essential thing is, that the individuation of organic life takes place only in and through matter, but the individuation of the atoms in and through space and time. In all higher individuals the general form requires a content or matter in order to become concrete; what was *matter* for the individuals of higher order becomes for those of the lower order *form*. Only with pure matter is the last term of this series reached; *only here* does the typical form become of itself concrete,—become as it were *itself matter* through the simple artifice of fixation at the extended point, through the device that here the directions of force all intersect at one and the same point. Since the atomic forces have no matter lying outside them whereby they may be individualised, but only their place, they are also discriminated (apart from the difference between body and ether atoms) *only* by their place, which is just their sole *medium individuationis;* higher individuals, on the other hand, which have matter for their *medium individuationis*, find also, *besides* the difference of the occupied place, in the matter taken into possession by them, a rich field for individual differences.

With this is first given in the case of individuals of lower order the possibility of an *individual character*, and to this we must pay some attention, for it meets us at all stages of organic life, from the individual character of the simplest cell to that of the foundations of the human mind, as a phenomenon at first perplexing for monistic principles.

2. *Individual Character.*—Concerning human character there are two extreme opinions. The one (Rousseau, Helvetius, &c.) asserts that all men are at birth equal, *i.e.*, devoid of an individual character; that their mind is just as much a *tabula rasa* as regards character as regards ideas, and that it only acquires the one as the other by external impressions, and the character in particular by education and circumstances.

The other view (Schopenhauer) asserts that character is *unalterable;* that it manifests itself indeed, as is natural, differently through different external opportunities, *e.g.*, at different periods of life, but in its essence it is at once the man's inalienable and unchangeable nature and foundation, consequently remains the same from birth to death.

Each of these two views explains a part of the facts very well, is closed, however, to another part of the facts. If we ask, which of the two views appears metaphysically more acceptable, the remarkable case occurs that nothing can be objected to the view of the French naturalists on the metaphysical side, while, on the other hand, that of the metaphysician Schopenhauer, who assumes the establishment of character by a resolution taken once for all out of time, can hardly stand the test of criticism derived from his own principles.

Schopenhauer himself wishes to be an absolute monist; if, then, the will of the world is in its essence one; if, further, the character likewise, according to his own assertion, is nothing but the peculiarity of the individual will, the *individuality* of the character can manifestly only be conceived as possible in an individualised *activity* of the universal will, but not as directly based on the *essential nature* of the universal will, since this always remains *universal.* How, however, the *activity* of the will which produces character is to be thought as extra-temporal, of that I can form no idea. I can only imagine a being, but not its activity, as out of time, since activity at once supposes time, unless one also assumes as possible an activity in zero-time, in which case it is in the moment also again *extinguished.* The character, however, that is to live through the life-period of the individual manifestly requires also an activity of the universal will, which lasts just as long. Otherwise expressed, the doctrine of the *intelligible individual character* is a contradiction to the monistic principle

a contradiction also to the transcendent ideality of space and time. For in the intelligible the *principium individuationis* is wanting, consequently also plurality and individuality, consequently also the *many* individual characters. The individual character *pre*-supposes the individual, or rather individuals, thus plurality, individuality; in short, the world of appearances: like this, it only becomes possible through *time*, through the temporal activity of the Universal Intelligible Being.

If this is now the state of the case, it is, in the first place, not at once obvious why, if the characters are in fact so different among one another, each individual should during the duration of life, *i.e.*, the whole time in which this particular activity of the individual will exists, remain the same, and not rather continually change.

Much more plausible, metaphysically, is the hypothesis of the French rationalists, that only typical generic characters, but not individual characters, are innate; that, however, through alteration of the character in different ways, the individual characters are gradually fashioned. On this assumption we come to terms much more easily with the all-unity of the Universal Being, for the individual variation of the originally similar generic character might then be referred to different brain impressions, each of which leaves behind a permanent change in the brain, which brings it about that thenceforward a molecular movement in the same sense as that called forth by those impressions more easily arises than one of a totally different kind (vol. i. pp. 33–34). This is the way in which altogether *habit* becomes a *power* in special application to character. The first action of a particular kind is purely decided by motives, on the assumption of a still undetermined character; in what mode and strength these come to the man depends on external circumstances. If, however, the first action turns out in a particular way, for the next similar case the motives which act in the

direction of the same decision as before have attained a certain imperceptible advantage over the opposite motives, which is heightened in every decision resulting in the same way.

In this way it comes about that in the case of any particular individual certain motives exert a greater, others a less effect, than on the average typical generic character, and the *sum* of all these *tendencies* is the individual character.

According to this view, consequently, the individual character arises especially by an individual constitution of the brain, which is produced by former impressions conditioned by external circumstances; for habit can exercise a direct influence only on the organ of consciousness, not on the Unconscious. Nevertheless, with the constitution of the brain the kind of activity also changes which the Unconscious directs upon the same; for this changes with every change of the organism, and the brain is one of the most important parts of it. The Unconscious usually always calls forth as a motive in the brain *the reaction which is the easiest ;* only where particularly important, especially general interests are at stake in an action, may we suppose that it takes upon itself the trouble of answering with another than this easiest reaction on the stimulus of the motive, a case which occurs in all action according to unconscious purposes, when the reaction which otherwise would directly respond to the motive fails to take place, or is outbidden by another, exclusively conditioned by unconscious intermediate terms.

In all cases, however, where the Unconscious has no such considerable interest that it would reward it to replace the reaction most easily occurring by another, will also a customary change of this easiest cerebral reaction have as its consequence a change of the activity of the Unconscious. The mode of this activity is, however, the character itself,—as we said before (B. Chap. iv.), man's inmost being. It is no contradiction that this character lies in

the *Unconscious*, and yet its nature is conditioned by the brain, the special organ of *consciousness;* for the organ of consciousness, together with all its molecular relations, which must be regarded as *latent dispositions* to certain vibrations of this or that kind, lies itself so much beyond all consciousness, that between its material function and the conscious idea the whole complex of those unconscious psychical functions is interposed with which we have been hitherto occupied. At the same time, however, we must here call attention to the circumstance that the latent dispositions of the brain are by no means the sole and sufficient cause, but only one of the co-operating conditions for the determination of the idea entering into consciousness, or of the will to act; for they alone would never attain any psychical effect, but the spontaneity of the Unconscious borrows only from them a determining direction for the manner of the unfolding of its activity, to which it is not so far bound as not spontaneously to modify it for higher purposes.

From this consideration it follows that a man, *even if he were born without individual character*, would have *acquired* as adult an individual character deviating more or less from the typical generic character. If this man now, however, begets children, we know that, according to the law of inheritance, the peculiar dispositions of his brain, deviating from the typical human brain, pass on to some of his children more or less completely. Then is such child born with these latent dispositions, which condition the individual character, and as soon as it comes into circumstances where these dispositions are active, its innate character comes to the front. The phenomena of reversion in the paternal and the maternal line, and the blending of such qualities handed on from different sides, make the inquiry very difficult in the individual case *whence* the different qualities of an innate character arise; yet is the undeniable fact of the innate character *only* thus to be explained. Whether the *first* man had an

individual character is an altogether idle question; his *general* character was indeed his *individual* character, since as the first individual of his species he completely represented the same. According to the theory of descent expounded in the last chapter, where the conception of kind was found to be a somewhat fluent one, every organic individual (accordingly also the first man) occupies a place in a series of organic developments, within which it receives from its immediate ancestors a whole treasury of ethological peculiarities as its inheritance, which on its part it again bequeaths, modified by the impressions of its life (before procreation), to its descendants.

Every human being accordingly brings the *main part* of his character with him into the world; how large in proportion to this is the part which he acquires in addition, depends on the uncommonness and abnornal nature of the circumstances in which he moves. In most cases the habits of *one* man's life do *not* suffice to produce far-reaching changes in the inherited character. Usually the acquired part of character is confined to fresh unimportant qualities, or the strengthening of existing ones, or the weakening of others by disuse. The latter takes place relatively in least degree, for as in all learning the most difficult is the forgetting of what has been learnt, so of all changes of character the most difficult is the suppression and weakening of existing qualities. It is this in particular that caused Schopenhauer to maintain the *unalterableness* of character.[1]

Whoever is disposed to doubt the fact of inheritance of *acquired* qualities of character, I refer to examples of the transmission of distinctly acquired qualities. Nobody will doubt that the tendencies to disease hereditary in families must, if one retraces the pedigree, be found in an ancestor who did not inherit but acquired them.

[1] For the fuller discussion of this theory, as well as on the relation of will and motive, I may refer to my essay on Julius Bahnsen's writings ("Beiträge zur Charakterologie," and "Zum Verhältniss zwischen Wille und Motiv") in the Philos. Monatshefte, Bd. iv. Hft. 5.

That amputated arms and legs and such-like mutilations are commonly not inherited proves nothing against our assertion, for they are too rough and palpable infractions of the typical idea of the species for us to expect their realisation in the child, and yet even here there are remarkable exceptions. According to Häckel, a bull whose tail had accidentally been wrenched off engendered nothing but tailless calves, and by continuous cropping of the tail for several generations a tailless breed of oxen has been obtained. Guinea-pigs, who had been made epileptic by artificial injuries of the spinal cord, transmitted this disease to their descendants. In general acquired qualities are more easily transmitted; the less they derange the type of the species, the more minute are the organic changes in which they consist. The latter is, however, in high degree the case with all cerebral dispositions to certain nervous vibrations. It is a well-known experience that the young of tame animals become tamer than the captured young of savage animals; that of domestic animals, again, those young promise to be most tame, most tractable, most teachable, &c., that spring from the tamest, most tractable, most teachable parents. Any taming of an animal in a particular direction affords so much the more prospect of success the further the taming of the parents has gone in the same direction. Young untamed hunting-dogs from superior parents act in the chase, almost of their own accord, tolerably correctly, whilst with dogs derived from parents who have never been employed for hunting training for the chase is a fearful work. Sons of generations of horsemen attain a good seat and balance at the very first trial. All these are examples of acquired qualities which are nevertheless inherited. They belong entirely to the subject of our inquiry, individual character in the wider sense, *i.e.*, to the sum of bodily and mental marks which distinguish an individual of a higher order (apart, too, from his spatial distinction through the occupation of place and the possession of a material body) from all other individuals.

If, in contemplating human individual character, we have hitherto kept in view the narrower sense of character, this happened only because the controversy specially turns upon the latter, not as if the difference in mental tendencies, faculties, and talents were not just as essential in the establishment of individual distinctions. But whoever has followed with approval our explanation of character in the narrower sense will at once see that the latter distinction can far less be conceived as arising in some other way, and a repetition of the explanation would be quite superfluous. How little character in the narrower sense is separable from mental endowment follows from this: that, on the one hand, the possession of an intellectual disposition or capacity is always accompanied by the *impulse* to use it; and, on the other hand, that character in the narrower sense always includes mental endowment, since it is the source of the modes of reaction of the will on different descriptions of motives, and every mode of reaction becomes a special one only because the volition following on a given motive possesses a special *ideal content* diverging from that of other individuals. If, then, the character is innate (*i.e.*, inherited), so also is the special matter of thought innate, the willing of which on a given motive makes up the special character of the innate mode of reaction. A mental representation can, however, only be innate as (inherited) slumbering idea of memory, *i.e.*, as molecular cerebral disposition to certain kinds of vibration (comp. vol. i. pp. 33–34). In this way, *e.g.*, the behaviour of the untrained young hunting-dog (its attention to game, the pricking up of its ears, its tendency to fetch and carry thrown objects), is to be explained by a memory inherited from its ancestors, in such a way, however, that the ideas (of memory) arising on suitable occasion from inherited cerebral dispositions do not become conscious *as* memories, but only make their appearance as the content of the acts of will called forth by those occasions (motives). (Here appears a special confirmation of Plato's explana-

tion of learning and reminiscence from a former life, except that the validity of this explanation is a very limited one, and the earlier life did not belong to the same individual.) In man, too, a large part of the external manners and peculiarities of deportment of movement and of behaviour is composed of inherited cerebral dispositions of ancestors affected with the same peculiarities. That certain mental talents are hereditary for several generations in a family is proved by numerous examples (painters, mathematicians, astronomers, actors, generals, &c.) All such inherited predispositions contribute their quota, however, to the constitution of the total individuality of the man in his *uniqueness.*

I only add, that, whilst the character in the narrower sense is always again equalised by cross-breeding, and in the main remains at about the same level in the human race—although the contrasts within the same become ever *more abundantly* worked out and more *sharply* drawn—that the mental endowments and faculties in the human race are liable to a progressive enhancement. This is owing to the circumstance that the various characters, provided they are not eccentric, get through life about equally well; but the man endowed with higher mental capacities has always the advantage in the struggle for existence. Still more than in individuals does the truth of this contrast appear in nations; the character of the latter has for their struggle for existence but very small importance in proportion to their mental fitness and education. Now the open, upright, and brave, now the cunning, treacherous, and cowardly, now the slow and enduring, now the ready and quickly recovering, now the morally strict, now the corrupt, but always for the length of time the *intellectually higher* nation comes off conqueror in the struggle for existence, which accordingly in this sphere also acts on the individual differences, confirming and enhancing them, whether these have first arisen fortuitously or unconsciously in generation, or through

the outward circumstances of life or personal conscious industry (comp. Chap. x. pp. 10–13).

If, on the other hand, we throw our glance backward beyond the commencement of human history on the history of development of organic life, of which humanity only forms the ripest fruit, there appears an advance of character and intelligence preserving a perfectly equal pace. We must ascend tolerably high in the animal kingdom before we find manifestations of an intelligence which are more than the immediate content of an act of will that takes its direction from the present motive. Hence the innate modes of reaction or inherited slumbering ideas of memory have in those lower mental spheres a relatively far higher importance (vol. i. pp. 88–89). But as the Unconscious creates for itself in these cerebral or ganglionic dispositions mechanisms for the easier performance of certain voluntary reactions (*e.g.*, the tendency of bees to construct hexagonal cells), so very well may something similar take place also with abstract human ideas, which frequently recur, and are of special importance for the organisation of thought (*e.g.*, mathematical notions, logical categories, forms of language, &c.) Should we have recourse for describing such latent dispositions of brain to the term "innate ideas," this would be just as improper a designation as the other, "slumbering ideas of memory" (comp. i. 301 note), since the idea or presentation is something added to the material function through the ideal reaction of the Unconscious, and is not dispensed with, but only facilitated by, the predisposition. It is also never to be forgotten that even if the hitherto quite unproved supposition of cerebral dispositions answering to the concepts in question is correct, yet the unconscious psychical function must always be the *prius* of the first formation of a mode of vibration, from which the corresponding disposition originally arose, and that further, in the case of other formal elements of thought, special reasons oppose the above supposition (comp. i. 343-344). But at all events,

one may regard this much as settled, that the enhancing of conscious intellect in the history of development of organisation and of humanity depends not only on an increase of the intensive and extensive capacity and faculty of combination, but also on an enhancement of the inherited cerebral dispositions for all practically useful intellectual directions of activity. We must not be puzzled by the circumstance that in man (and even in the anthropoid apes) the embryonic evolution of the brain goes on for a tolerably long time after birth (comp. also i. 352-353).

The same results, which we preferred to obtain here by another path, we might of course have also got if we had directly built upon the results of the last two chapters, and had kept in view the different causes of the individual variations from the origin of the cell. The agreement of the goal to which both roads lead may serve for corroboration. The difference which would still have to be adjusted is the following:—

In lower organisms, where the variations are found essentially in the bodily structure and the organic functions, we sought the origin of the individual variations more especially in that period of life which opposes the least resistance to modifications; in Man, however, where the variations of the mental qualities are far more interesting than those of the bodily, we must of course seek the origin of these variations in that period of life when the mental functions are already active, thus *after birth*, and indeed *some little time* after that; but yet *not in the later* periods of life, when the development is, as it were, indurated, but in the receptive age of *childhood* and *youth.*

Essentially, however, the source of individual differences is the same in the whole domain of organisation: external circumstances condition a varying structure of the organism, and the varying structure of the organism conditions

a variation of the activity of the All-One Unconscious directed to it. These differences are added to that already conditioned by the diversity of the material substratum, and together form that total of differences which secures to every individual his *peculiar oneness.*

XII.

THE SUPREME WISDOM OF THE UNCONSCIOUS AND THE PERFECTION OF THE WORLD.

AT all times, and among all peoples, the wisdom of the Creator, World-orderer, or World-governor has been the theme of admiration and of praise. None of all the peoples who in the course of history have attained even a moderate degree of civilisation, whatever may have been their other opinions in religion and philosophy, has been so barbarous as not to have attained this perception, and to have given it more or less rapturous expression. Although this expression must, in part, be laid to the account of a flattery of the gods with self-interested objects, yet at all events the greater part of it remains the announcement of a genuine conviction. This conviction thrusts itself already on the mind of the child as soon as it begins to comprehend the remarkable combination of means and ends in Nature. He only who denies natural ends can close his mind against this conviction; such a view can, however, only be evolved from systematically ordered philosophical abstractions, since it runs counter to the first natural apprehension of the phenomena of Nature. Before men form abstractions, they are most strongly moved by the power of the concrete case, and the deeper heads of a childlike nation may be lost in astonishment and reverence at the perception of a striking natural purpose even in a single case. Thus it is related of an ancient Brahmin that he was so affected with astonishment at the sight of an insect-capturing plant, that, forgetful of meat and drink, he remained seated before it till the end of his life.—Then

when man arrives at inductions from the concrete instances, it is such propositions as "Nature does nothing in vain," "Nature does everything for the best," "Nature employs for its ends the simplest means and ways," in which he already early acknowledges the wisdom ruling in Nature. This conviction finds its strongest rational expression in the period of Leibniz and Wolf. Although Leibniz, in his denial of evil in the world, overshot the mark, although a great part of the extravagant laudations of the iterators of the "best world" was only hollow bombastic declamation, which merely injured their case in the eyes of posterity, yet a core of truth still remains.

If we consider the matter in connection with our former conclusions, it will take somewhat the following shape:—According to C. Chap. i., the Unconscious can never *err*, nay, not even *doubt* or *hesitate*, but when the entrance of an unconscious idea is *wanted*, it follows *instantaneously*, implicity enclosing the process of reflection occupying time in consciousness in the one moment of its occurrence, and undoubtedly correctly, since all the data that can in any way be taken account of stand at the command of the Unconscious in virtue of its absolute *clairvoyance*, and indeed *always* and momentarily stand at command, not as the data in conscious reflection that have first to be dragged out by severe meditation from memory one after the other, and still oftener are entirely wanting. All future ends, the nearest as the most distant, and all considerations of the possibility of intervention in this or that wise, act together in this manner at the moment of origin of the required idea, and thus it happens that every interposition of the Unconscious occurs precisely at the *most suitable* moment, when the whole purpose-frame of the world requires it, and that the unconscious idea which determines the manner of the interposition is the *most suitable of all possible ones* for this whole machinery of ends. Such an interposition of the Unconscious in a manner adapted to the peculiarity of the case according to

our investigations takes place at *every* moment in the department of organic life; both the *preservation* consisting in a replacement of the used-up material by nutrition and in a ceaseless struggle against invading disturbances, as well as the *plastic energy* manifesting itself partly in a re-creation of accidentally destroyed parts, partly in an enhancement of the individual form of life, and also the plastic energy becoming *reproduction* through the setting-up of fresh individuals; they all three are only conceivable as a ceaseless ever-renewed interposition of the Unconscious at every single point of the organism at once; each of these interpositions being modified according to the particular circumstances to which it refers, and each uniformly keeping in view the important ends which they all subserve in common.

Every natural cause shows itself accordingly as means for the great ends of Providence; every natural cause in the organic realm presents itself as including a direct participation of the Unconscious. But these continual interpositions of Providence are themselves *natural*, *i.e.*, not *arbitrary*, but *according to law*, namely, determined with *logical necessity* by the main design fixed once for all, and the circumstances of the moment in which the interposition takes places.

When the Christian theory emphatically declares that God's action is not merely a guidance on the large scale, but that his immeasurable greatness is most remarkably displayed in this, that it is everywhere active in the smallest detail, this view is only confirmed by our researches in regard to organic life.

The fitness of the activity of the Unconscious is not however herewith exhausted, but as the cleverness of a person is much more to be commended, who relieves himself of an ever-recurring work by the construction of an ingenious machine, than that of one who himself performs the same in each single case with the utmost skill, so must we also far more admire the wisdom of the Unconscious, when it

saves itself a part of its interposition by mechanical arrangements contrived for the purpose or even by a clever use of external circumstances (*e.g.*, of the struggle for existence, or of the existing atomic forces), than when it solves its problems by continuous direct interposition in the most excellent fashion. Examples of this we have already found in such numbers in the course of our inquiries that I consider a special reference, to say nothing of enumeration, to be scarcely necessary here. The most comprehensive and important of all these mechanisms, however, is the system of the physico-chemical laws of Nature.

But however many mechanical contrivances the Unconscious may employ to facilitate its labour, these can never dispense with the continual direct interposition, for they fall according to their very nature into a class of *homogeneous* cases, whilst in reality each case is distinct from the other; the best-contrived mechanism thus always leaves over a remnant of work, which falls afterwards as before to the direct activity of the Unconscious, and which consists in the complete adaptation to the peculiar nature of the case. As soon as the expenditure of force needed for the setting-up of a machine would become greater than the saving of force attained by the mechanism (which is the case in all combinations of circumstances which by their nature occur but seldom, or where for other reasons a mechanism can only be constructed with difficulty), there of course the direct activity of the Unconscious must display itself without hesitation. Of such a kind are, *e.g.*, the incursions of the Unconscious in human brains, which determine and guide the course of history in all departments of civilisation in the direction of the goal intended by the Unconscious.

If, now, according to all this, we cannot avoid ascribing to the Unconscious, first, absolute clairvoyance (which answers to the theological notion of omniscience); secondly, an infallible and indubitable logical concate-

nation of the included data, and the most appropriate action at the most suitable moment (in theological language, omniscience united with supreme wisdom); and, thirdly, a ceaseless intervention at every moment and at every place (theologically omnipresence; one must add omnipresence at all times); if we further consider that at the first moment when the Unconscious became active, thus at the moment of the first positing and disposing of this world, just the same ideal world of *all possible* conceptions, thus also of all possible worlds and world-goals and world-ends and their possible means rested in the omniscient Unconscious,—if, lastly, we take notice that the chain of final causality cannot from its very nature be conceived interminable like that of bare causality, but must terminate in a final end, because every preceding link of the chain in final causation must be conditioned by the *following*; thus a *completed infinity* of ends would have to be included in the idea, and yet all the infinitely numerous final terms would hover as impossible in the air, because they wait in vain for the true end which is to determine them,—we may with justice confide *that the world is contrived and guided as wisely and well as is possible; that if, among all possible ideas, that of a better world could have lain in the omniscient Unconscious, certainly the better one would have come to pass instead of the present one;* that the *unerring* Unconscious neither could have been *deceived* in positing this world as to its value, nor that in the omni-temporal omnipresence of the Unconscious a *pause* in its action could ever have been possible, since by such a remissness in the government of the world the better-founded world would have of itself *deteriorated.* Consequently, we can only regard the assertion of Leibniz as perfectly justified, "that the existing world is the best of all possible ones." To be sure, the path by which we arrive at the preponderating probability of this assumption is an *indirect* one. To aim at it by a direct path is indeed a manifest impossibility, for how could we compre-

hend the infinitely many *possible* worlds, how sufficiently know the existing ones, to compare it exhaustively with these? It was certainly, however, possible for us to prove the existence of those qualities in the Unconscious in consequence of which it must overlook the possible worlds with a glance as it were, and of these worlds realise that one which attains the most rational end in the most efficient manner.

But now, although in this respect we agree with Leibniz, we can yet by no means approve of his conception of *evil,* which he has adopted from Athanasius and Augustine, and which consists in explaining it as something purely privative, or a *less degree of the good.* Were it declared to be something *negative* in the true sense of the word, rightly understood, one could only approve this, for pleasure and pain, good and evil are in fact related as positive and negative, *i.e.*, as thesis and antithesis; only it is to be remarked that the negative has *exactly as much* reality as the positive; that it is purely a matter of the subjective point of view, consequently, as this is self-chosen, an arbitrary affair, which of two opposites is termed positive, which negative.

But Leibniz had also too fine and too mathematical a head to attempt, from the negativity of evil, to show its unreality. Since, however, he is only concerned to prove this *in majorem Dei gloriam,* he does violence to the facts, and ascribes to evil not a negative, but a merely *privative,* and indeed *relatively privative* character, *i.e.*, he asserts: "Evil is not the contrary, but the defect of the good, and indeed only absolute evil could be the absolute defect of the good; every relative evil, however, is only a relative defect, *i.e.*, a *less degree* of the good."

This is an actual untruth, for from the proposition it would at once follow that I must prefer the union of the evil *a* with the good *A* to the possession *of the latter alone,* since indeed the evil *a* is not by a long way absolute evil, *i.e.*, zero-evil, but only a less degree of good, thus increases

the degree of good contained in *A* by its own good. The *non plus ultra* of madness would be, however, according to this view, when somebody to avoid a great evil foregoes a good, and the man who at the same time suffers in the extremest degree all conceivable bodily and mental torments would have to be called happy even at this moment compared with the insensitive state of one under chloroform, to say nothing of the peaceful sleep of death. To such unnatural perversions does a false hypothesis lead, that is invented for the sake of certain foregone conclusions.

If we inquire, however, concerning the motive in whose interest it was set up, it is remarkable that this proves to be mistaken, and therefore the whole hypothesis superfluous.

It used to be thought that there lay in the existence of a real evil a contradiction to the perfect world. Much mischief has at all times been wrought by the word "perfect." Already Plato (Timæus, 7) and Aristotle regarded the world as a sphere, and the astronomical movements as circular, *because* the sphere is the most perfect form, and circular movement the most perfect movement; and in old manuals of artillery, too, one may read that balls are used for shot because the ball is the most perfect shape.

If "perfect" has any sense at all, it can only be "the best of its kind," for nothing *can* of course be better than possible; and only in *this* sense would one have grounds for regarding the world as possible. But now another notion was substituted unperceived for that of perfect, the *immaculate* or faultless, representing an absolute value, filling the possessor with untroubled blessedness. For such a perfection of the world, however, not the very least particle of evidence was offered; it was a baseless supposition, the result of confusion of ideas. It was supposed the best possible must also be *good*, and it was not at all considered that the *best possibility* of a

thing does *not* say anything whatever as to its goodness: that it therefore may be as bad as one can imagine, nay, that in certain cases the extreme of goodness and the extreme of badness is precisely identical, namely, when only one case is possible, or even when all possible cases equal one another in goodness. Thus, then, because this world is the best possible, it may still be thoroughly bad, and since the best possibility says nothing at all as to its goodness, the strongest *proof of its badness can never become an objection to its being the best possible*, and consequently the refutation of these objections never can become *a support* to the assertion of its being the best possible, are therefore in *this* respect quite superfluous.

Only if the defects and worthlessness exhibited prove either the pursuing of a reprehensible purpose or an application of *unsuitable* means to *demonstrably* good ends, only then would they establish a doubt of the all-wisdom of the Unconscious, and thereby indirectly, but only indirectly, also of the best possible character of the world. This is, however, the case neither as regards evil, nor as regards the morally bad, nor as regards the pleasant life of the immoral and suffering of the virtuous; the ends to which these circumstances would be inappropriate means must be the rule of universal felicity, morality, and justice. As regards morality and justice in particular, both have only an importance from the point of view of individuation, *i.e.*, they belong only to the world of appearance, not to its essence. Individuation requires as fundamental instinct for the preservation of individuals, thus as fundamental condition of their possibility, *egoism; without* egoism no individuation; *with* egoism necessarily direct injury of another for one's own advantage, *i.e.*, wrong, wickedness, immorality, &c. All this is therefore a necessary unavoidable evil for the sake of individuation, as I have already shown in Chap. viii. A., vol. i. p. 190, in the department of organic arrangements, that certain in-

evitable evil conditions must be borne in spite of their inappropriateness for *certain* ends, because their avoidance would be inappropriate for still *more important* ends.

The wisdom of the Unconscious is therefore only to be admired, which, in the first place, has placed in the human breast as counterpoise to the necessary egoism those other instincts like compassion, benevolence, gratitude, feeling of approval and instinct of retaliation, which serve for the averting of much wrong and production of positive benefits, and of which the retaliatory instinct and the feeling of approval in conjunction with the instinct to form communities produce, after the transference of retribution to the state, the idea of justice, which now on its part makes the desistance from wrong by prospective punishment an affair of egoism, so that this annuls itself by its own excesses.

But quite apart from this admirable arrangement morality and justice are always only ideas, which have a significance *merely* in regard to the behaviour of *individuals to one another*, or to the corporations formed of individuals, but applied to the *inner being* of the individuals, *i.e.*, to the One Unconscious—*apart* from the form of its manifestation—become *meaningless*. But now, since the All-One can in the last resort only be so far *interested* in the world as it takes part in it, inheres in it with its *essence*, and since the *form of the manifestation* is indeed an important point of transition, but apart from its reaction on the Essential Being itself cannot possibly be a final end; so will also morality and justice as *formal* ideas only be capable of estimation in regard to their teleological value for the Unconscious, according to that standard which exclusively regards their effect on its *essence*.

This, however, is only given by the sum of *pleasure and pain* produced by morality and immorality, by justice and injustice, in all the participating individuals acting

or suffering, for these only are altogether *real*, not like morality and justice, *mere ideas of consciousness*, and the Unconscious is the *common subject*, which feels them in all the different consciousnesses. Thus not *in itself* can moral action have a value for the Unconscious, but only so far as it lessens the sum of the sorrow to be felt by it; not in itself, also not for the sake of morality can justice have a worth, but only so far as it diminishes the woe to be felt by diminution of immoral action. Although, therefore, morality and justice, *as such*, cannot be ends in the world-process, they might well *be so for the sake of happiness*, if this, as an object directly concerning the essence of the Unconscious, may be regarded as end, which might well be supposed. As ends in such relative sense, however, morality and justice may certainly be regarded without being contradicted by the facts, since, indeed, the already mentioned instincts, but especially the ever-improving administration of justice, must be recognised as means to the diminution of immoral and unjust action. They must, however, entirely lay aside their claims to absolute validity, and content themselves with a very subordinate relative importance, to which is to be added that, as immorality is an unavoidable evil, without which no individuation is possible, so the demand for a direct divine administration of justice is a piece of theological unreason, which for the sake of an extremely small utility would continually put the laws of the world out of joint. Of happiness, *i.e.*, the greatest possible diminution of pain and the greatest possible enhancement of pleasure, one would certainly think that it must be something affecting the essence of the Unconscious itself, altogether real, *eo ipso* end, especially *since there is no other subject for the feeling* of pain and pleasure than the one Unconscious; in conformity with this we do also, in fact, see a number of preparations taken for the warding off of pain and the enhancement of pleasure.

Just as little can we deny that on the supposition of

individuation and of the egoism connected therewith, the inevitable *necessity* of pain in the struggle for existence and in the death of the individual is given; yet we find a number of facts that appear *inappropriate* as regards happiness, and only become intelligible when the other ends which they serve, *e.g.*, perfection of consciousness, &c., are more important than happiness; nay, this is even the case with individuation itself. But now we cannot at all understand how there should be an end that could take precedence of happiness, since nothing could more immediately affect the essence of the Unconscious than this. We cannot comprehend how there could be anything that would reward a *sacrifice* of happiness except the prospect of a *higher* happiness, or that could repay the taking on oneself of a pain except the prospect and avoidance of a greater pain; otherwise it would only be *driving the teeth into one's own flesh.* If then happiness is actually to be the supreme end, there can be only such sufferings as are unavoidable, in order to attain on another side, or in a later stage of the process, a so much higher happiness, or at least to obviate still greater, more extensive, or more protracted sufferings. But if there were no prospect of this, the existence of a world-process, or of a world at all, would not be rationally intelligible, and the attainment of God knows what *other ends* could afford no rational ground for the assumption of a pain exceeding the pleasure.

Here now is the point where we again come back to Leibniz, for it would indeed be too surprising if the confusion of ideas between the perfect world as *best possible,* and the perfect world as *altogether good and faultless,* had not, in the case of so fine a mind as Leibniz, a hidden support justifying the drift of the "Theodicy" in a certain fashion. This, however, is certainly discoverable; for not, as is asserted, to show the supreme excellence of the world did Leibniz seek to enhance its worth by the privative character of evil and the bad, but to justify the Creator *on account of his creation.*

To wit, under *all possible worlds* the case is not included that *no* world be created, just because *no* world is also no *world*, thus also *no one* of possible *worlds;* should it now turn out that the existing *world* is *worse than none*, the reproach would fall on the Creator why he *at all* created it, since it would indeed have been more rational to create none. Then would the creation as such, altogether apart from *how* it turned out, owe its origin to an *irrational* act, and one would have then the choice *either* to assume that the Reason of the Creator had no part in this irrational act, and that only the task fell to it to continue and carry out in the best possible manner the original decision made without its participation; *or*, however, to grant that the Wisdom of the Creator, unquestionable in details, committed on the large scale a fundamental error, and consequently became perfectly unfaithful to itself, namely, if one wishes to sustain the assertion that in that original act the *totality* of the Creator participated, thus also his *reason*. The *second* hypothesis is too monstrous; how could the Supreme Wisdom be so faithless to itself as just to be guilty of the greatest unreason at the most important moment? But Leibniz would and could *just as little* have adopted the *first* supposition, because he recognised no plurality of attributes in God. Consequently it only remained for him to secure himself *in advance* against the *possibility* that this world could have turned out *worse than none*, and *for this purpose* he invented the theory of the privative character of evil.

We, who seek before all to maintain an unprejudiced attitude in this inquiry, shall in the next chapter try to solve the question *empirically* whether this world is to be preferred or postponed to its non-existence. Should then the latter be the result, we shall not seek to evade the consequence that the existence of the world owes its origin to an *irrational* act, shall however not assume that *Reason itself has suddenly* become *irrational* in this one point, but that this act was only consummated *without* reason, because

Reason had *no part* in it. This is possible to us, because we recognise *two* activities in the Unconscious, of which the one, the will, is just the inherently illogical (not *anti*-logical, but *a*-logical), irrational. As we have already found that all real existence owes its origin to the will, it would, even *a priori*, be only wonderful if this existence were *not* as such irrational.

But whatever the decision may be, in no case can an objection be drawn from it to the *all-wisdom* of the Unconscious, and to the proposition *that of all possible worlds the existing one is the best.*

END OF VOL. II.

PHILOSOPHY OF THE UNCONSCIOUS.

METAPHYSIC OF THE UNCONSCIOUS—
Continued.

XIII.

THE IRRATIONALITY OF VOLITION AND THE MISERY OF EXISTENCE.

NATURE OF THE PROBLEM.

THE object of this chapter is to inquire whether the *being* or the *non-being* of this present world deserves the preference. And here, more than at any other stage of our inquiry, must we crave the reader's indulgence, since a tolerably exhaustive treatment of the subject would require a book to itself. In this place our exposition must be rather of the nature of an episode, both on external grounds and more particularly because the result of this inquiry, although important for the clearing up of the ultimate principles of Philosophy, has no direct bearing on the main theme of the work as proclaimed in its title, "The Unconscious." Nevertheless, in a short examination, presenting many new points of view, I hope to afford suggestions even to the opponents of the opinions here advanced, which may to a certain extent compensate them for the perusal of this digression.

If we glance at the judgments of the greatest minds of

all ages, we find those, who have at all found occasion to express their opinion on the subject, pronouncing the condemnation of life in very decided terms.

Plato says in the "Apology": "Now, if death is without all sensation, a dreamless sleep, as it were, it would be indeed a wonderful *gain*. For I think if any one selected a night in which he had slept so soundly as to have had no dream, and then compared this night with the other nights and days of his life, and after serious consideration declared how many days and nights he had spent better and more pleasantly than this one, that not merely an ordinary mortal, but the great king of Persia himself, would find these but few in number as compared with all his other days and nights." More clearly and picturesquely it would hardly be possible to state the advantage which, on the average, non-being possesses over being.

Kant says (Werke, vii. p. 381): "One must indeed make an ill reckoning of the worth of the journey (of life) if one can still wish that it should last longer than it actually does, for that would only be a prolongation *of a perpetual contest with sheer hardships*." Page 393, he calls life "a trial-time, wherein most succumb, and in which even the best *does not rejoice in his life*."

Fichte declares the natural world to be the very worst that can be, and is himself only consoled by the belief in the possibility of a preferment to the blessedness of a supersensible world through the medium of pure thought. He says (Werke, v. pp. 408–409): "Courageously men betake themselves to the chase after felicity, heartily appropriating and fondly devoting themselves to the first best object that pleases them and that promises to repay their efforts. But as soon as they withdraw into themselves and ask themselves, 'Am I now happy?' the reply comes distinctly from the depth of their soul, 'Oh, no; thou art still just as empty and destitute as before!' Convinced that this is a true deliverance, they imagine that they have failed only in the choice of their object, and throw them-

selves upon another. This, too, will just as little content them as the first; *no object beneath the sun and moon will satisfy them*. . . . Thus they pine and fret their life through; in every situation in which they find themselves, thinking if it were only *different* how much *better* their lot would be, and yet, after it has changed, finding themselves no better off than before; at every spot at which they stand, supposing if they could only reach yon height their uneasiness would cease, yet finding again, even on the height, their old woe. . . . Perhaps they even resign the hope of satisfaction in this earthly life, but accept in compensation a certain traditional doctrine concerning a blessedness beyond the grave. In what a deplorable illusion are they caught! Quite certainly, indeed, lies blessedness also beyond the grave for him for whom it has already begun on this side; through the mere interment, however, one does not enter into blessedness; and they will in the future life, and in the infinite series of all future lives, just as vainly seek blessedness as they have sought it in the present life, if they seek it in anything else than in that which already encircles them so closely here that it can never be brought nearer to them in endless time, in the Eternal.—Thus, then, errs the poor offspring of eternity, thrust out of his paternal abode, always surrounded by his celestial heritage, which his timid hand fears only to touch, inconstant, and roaming in the waste, endeavouring in vain to settle; fortunately, through the speedy ruin of all his habitations, reminded that he will nowhere find rest but in his father's house."

Schelling says (Werke, i. 7, p. 399): "Hence the veil of sadness that is spread over all Nature, the deep indestructible melancholy of all life." He has, moreover (Werke, i. 10, pp. 266–268), a very beautiful passage which should be read in its entirety; here I can only quote a few fragments: "Certainly it is a painful way the Being which lives in Nature traverses in his passage through it; to that the line of sorrow, traced on the countenance of all

Nature, on the face of the animal world testifies. . . . But this *misfortune of existence* is hereby annulled that it is accepted and felt as non-existence, in that man seeks to bear up in the greatest possible freedom from it. . . . Who will trouble himself about the common and ordinary mischances of a transitory life that has apprehended *the pain of universal existence* and the great fate of the whole?" "Anguish is the fundamental feeling of every living creature" (i. 8, 322). "Pain is something universal and necessary in all life. . . . All pain only comes from being" (i. 8, 335). "The unrest of unceasing willing and desiring, by which every creature is goaded, is in itself unblessedness" (ii. 1, 473; comp. also i. 8, 235–236; ii. 1, 556, 557, 560).

I shall content myself with these citations; a few more will be found in Schopenhauer's "World as Will and Idea," ii. chap. 46.

But what do such subjective expressions of opinion without annexed reasons prove? Must we not rather mistrust them *because* they proceed from eminent intelligences, affected by that melancholy sadness which is the inheritance of almost all genius, because they do not feel at home in the world of their inferiors? (Comp. Aristotle, Prob. 30, 1.) Certainly the worth of the world must be measured by its own standard, not by that of the genius. Let us look, therefore, further.

Imagine some one who is no genius, but a man with the best general culture of his time, endowed with all the other good things of an enviable lot, in the most vigorous years of manhood, who is fully conscious of the advantage which he enjoys over the lower orders in the uncivilised nations and over his fellows of ruder ages, and who by no means envies those above him, who are tormented by all sorts of discomforts spared to himself—a man who is neither exhausted and rendered *blasé* by immoderate pleasure, nor has ever been crushed by exceptional strokes of fate.

Let us imagine Death to draw nigh this man and say, 'Thy life-period is run out, and at this hour thou art

on the brink of annihilation; but it depends on thy present voluntary decision, once again, precisely in the same way, to go through thy now closed life with complete oblivion of all that has passed. Now choose!"

I question whether the man would prefer the repetition of the past performance to non-existence, if his mind be free from fear, and calm, and if he has not altogether lived so thoughtlessly, without all self-reflection, that, in his inability to offer a summary criticism of the experiences of his life, he does but give expression in his answer merely to the instinct of the desire of living at all cost, or allows his judgment to be thereby too much biassed. How much more, however, now must this man prefer non-being to a re-entrance into life, which offers him not the favourable conditions his past life offered, but, on the contrary, leaves it perfectly to chance into what new life-conditions he enters, which thus offers him, with a possibility bordering on certainty, worse conditions than those which he first disdained!

In the situation of this man, however, the Unconscious would find itself at every moment of a new birth, if it really possessed an option.

But in this example, likewise, the reproach attached to the opinions of genius is not to be avoided, that we have interrogated an intelligence far above the average, but that, as each single phenomenon must be judged by its own standard, the world as a whole can only be judged with approximate correctness if the judgment is passed according to the *average standard* of all the several phenomena. The above example, however, if it is correct in itself, proves that *this* stage of intelligence already condemns the phenomenon by which it is supported, of which it is indisputably the sole competent tribunal, whilst, on the contrary, the error only consists in this, that it regards itself as competent to condemn *also what is below it,* whilst this likewise must be measured by its own standard.

This error is, however, not to be wondered at, for it also quite universally occurs where the intelligence does not stand so high as to condemn the appearance by which *it* is supported. Let any one, *e.g.*, ask a woodcutter, or a Hottentot, or an orang-outang whether he would prefer annihilation or new birth in a rhinoceros or a louse. They would probably all prefer annihilation, but, nevertheless, prefer the repetition of their own life to annihilation, precisely as the rhinoceros and the louse would prefer a repetition of their life to annihilation.

This error arises, however, from this, that the interrogated at the moment of decision projects himself with *his present* intelligence into the life of the lower phase, when he of course must find it unendurable, and forgets that then at the lower stage also only the intelligence of this lower stage would be at his command for judging.

There remains, then, in fact, nothing for it but to judge every phenomenal stage of the Unconscious by its own standard, and then to draw from all these special judgments the algebraic sum, which then at the same time represents a real unconscious unity, namely, the totality of all the subjective determinations of feeling posited in the All-one Being. Every judgment from an alien standpoint yields unavailable results ; for every being is just as happy as it feels itself to be, not as *I should* feel in its place with *my* intelligence, since this is an unreal supposition.

Pain and pleasure *are* only so far as they are *felt ;* they have thus no reality at all except *in the sentient subject ;* consequently an objective reality does not *directly* appertain to them, but only in virtue of the objective reality of the subject in which they exist, *i.e.*, their reality is immediately a *subjective* one, and only *so far as* they have a subjective reality have they *indirectly* also an objective one. It follows from this that there is no other direct measure of the reality of sensation than the subjective, and accordingly that an illusion or untruth of *feeling as such* is impossible.

But undoubtedly feeling may be untrue *so far* as the *ideas* are untrue by which it is aroused, but then the delusion indeed always lies in the idea of the object, but the feeling itself, *no matter* whether it *rests* on a real basis or on an *illusion*, is always *equally true* and *equally entitled* to be taken account of in the sum total.

If, now, the difference in the sentence which the intelligence of the louse would pass on its life and that which my intelligence passes on my life depends solely on this, that the louse is entangled in illusions which I do not share, and that these illusions afford it an excess of felt, thus real felicity, which causes it to prefer its life to non-existence, manifestly the louse would be right and I wrong. The decision, however, is not so simple; for beside this source of error on my side there remain further sources of error in the answer of the louse, which corrupt its judgment, as the former mine — to wit, although undoubtedly the life-value of every being can only be considered according to its own subjective standard—and here illusion is as good as truth—yet it is by no means asserted that every being draws the *correct* algebraic sum from all the affections of its life, or, in other words, that *its collective judgment* on its own life is a correct one in respect of its subjective experience. Quite apart from the degree of intelligence necessary for the pronunciation of such a summary judgment, there remains, in the first place, the possibility of errors of memory and combination; and secondly, of a *bias of the judgment by the will and unconscious feeling.*

If we may assume that the former errors might be got rid of in the judgment of a large number of individuals, the latter source of error, on the contrary, weighs so much the heavier. Whoever knows how powerful is the unconscious bias of thought and judgment by the will, by instincts and feelings, will immediately allow the great importance of the errors thereby rendered possible. Let any one reflect how easily unpleasant impressions

are blotted out of the mind and how pleasant ones remain, so that even an event or adventure disagreeable enough in reality appears in memory in the most charming light (*juvat meminisse malorum*); in consequence of this the recapitulating memory must attain to a far more favourable summing up of the pleasure-content of personal life than a review of the pleasure and pain actually felt in the course of life undistorted by the glasses of memory would yield. What memory is unable to accomplish in the way of hushing up really felt pain, the instinct of hope most certainly accomplishes for future feeling (comp. below No. 12), and the balance of the past will be involuntarily falsified by all younger persons by the introduction of the idea of a future which is purged by hope of the main causes of past pain without the causes of pain hereafter to be added being taken into account. Thus it is not the true life as it *actually* was and will be, but as it is exhibited to the uncritical eye in the embellishing mirror of memory and in the deceptive roseate hue of hope that is used for drawing the balance between the sum of pleasure and the sum of pain; and hence it is no wonder if a result appears to be yielded which little enough agrees with reality.

Let one consider, further, that the foolish vanity of man goes so far as to prefer to seem rather than to be not merely well but also happy, so that every one carefully hides where the shoe pinches, and tries to make a show of opulence, contentment, and happiness which he does not at all possess. This source of error falsifies the sentence that one passes on others according to what they express and reveal of the balance of pleasure and pain of their life, just as the two just-named sources of error the judgment on their own part. If one, however, judges according to what other people are wont to declare concerning the sum of happiness of their whole life, it is clear that we have here to deal with the *product* of the two mentioned errors. One already sees from this with what caution

we must accept the judgment of mankind on their own felicity.

Lastly, when we consider, as is *a priori* to be expected, that the same unconscious will which has created beings with these instincts and passions will also through these instincts and passions influence conscious thinking in the direction of the same life-impulse, we should rather only wonder how the instinctive love of life should come to be able in consciousness to condemn this same life; for the same Unconscious which wills life, and, moreover, for its quite special ends wills just *this* life in spite of its wretchedness, will certainly not omit to fit out the creatures of life with just as many illusions as they need, in order not merely to make life supportable, but also to leave over enough love of life, elasticity, and freshness for the life-tasks to be accomplished by them and claiming all their energy, and thus to cozen them concerning the misery of their existence.

In this sense Jean Paul well says: "We do not love life because it is beautiful, but because we must love it; and hence it happens that we often draw the inverted conclusion: since we love life, it must be beautiful." What is here called love to life is nothing else but the instinctive impulse of self-preservation, the *conditio sine qua non* of individuation, the negative expression of which is the avoidance and warding off of disturbances, and in the highest degree the fear of death, of which mention has been made at the beginning of Sect. B. Chap. i. Death in itself is no evil at all, for the *pain* connected with it falls indeed still into *life*, and would not be *more* feared than the same pain in sickness, *if* the cessation of individual existence were *not* bound up with it, which is *not* felt, thus cannot be any evil at all. As little then as the fear of death can be understood otherwise than from the blind instinct of self-preservation, so little the love of life. As is the case in general with the fear of death and the love of life, so in particular in many phases of life, which

instinctive impulse spurs us to retain and eagerly to experience, in consequence of which our judgment on the algebraic sum of the enjoyments and pains special to this phase is corrupted and the impression of the experience just made glossed over by the new deceitful hope. This is the case with all the properly impelling passions, hunger, love, honour, avarice, &c.

It must now be inquired here, in respect of the different impulses and aims of life, how far instinct and passion themselves cause a corruption of the judgment with regard to the total enjoyment or pain endured through the particular aim; but this would be a very difficult problem, because the assent of every reader would depend on this, that in judging of his previous judgment he perfectly emancipate himself in each of these directions from the corrupting influence of impulse and passion, which is hardly to be expected; for a conscientious life-long self-observation is scarcely able to effect that. Apart from the small prospect of success which this effort by its very nature would offer, there would be also an external inconvenience connected with it. This consideration, namely, would by no means dispense us from the task of afterwards subjecting all those feelings to a criticism which, in spite of their complete reality, rest on illusions, and *which therefore are destroyed along with the destruction of these illusions with advancing conscious intelligence.*

This inquiry we cannot be spared, because all progress has in view the increase of conscious intelligence.

The lower animals and plants, since the commencement of organic life, have been more and more displaced by higher ones—the higher animals by man,—and humanity will in time attain, on the average, a pitch of intelligence and cosmic intuition which at present only a cultured few have reached.

The question how far the feelings rest on illusions is thus of the highest importance for the decision of our problem, since what *will become* of the world, whither it is tending,

is manifestly of far greater importance for the estimation of its value than the provisional stage of development at which it may accidentally happen to be.

We should thus, then, have to consider the same impulses and phases of life once more under this second point of view, and it is evident that here many repetitions must occur, partly not to disturb the understanding, partly because in the concrete case the two points of view are so intimately connected that it often appears hardly possible strictly to separate them. I therefore prefer to pursue the consideration from both points of view simultaneously.

In many cases where the reader might be disinclined to admit that the ordinary theoretical *assumption* of a preponderating enjoyment rests on an *error*, *i.e.*, on a corruption of the *judgment* by impulse or by other sources of error, he would hardly refuse to allow that the preponderating *enjoyment itself* supposed by him, *if* it really exists, still depends on an *illusion*, and is accordingly rendered questionable by the thorough destruction of the illusion. Both, however, come, for the object of our inquiry, almost to the same thing; for if it is true that with the progressive intelligence of the world the illusions of existence also must be more and more undermined, until finally all is recognised as "vanity of vanities," the condition of the world would become ever more unhappy the more it approaches the goal of its evolution, whence we should conclude that it would have been more rational to prevent the development of the world the earlier the better, best of all to suppress its arising at the moment of its origin.

Before all things, however, I beg the reader, in the following inquiries, to keep continually in view that the above-stated sources of error (pp. 7–9) in the estimate of life constantly tend to preoccupy and mislead his judgment in favour of an over-estimate of pleasure and under-estimate of displeasure, and that the views and opinions on life which he brings with him to this philosophical inquiry are already themselves results that

are thoroughly saturated by the influence of the sources of error named, and thus, as imported prejudices, oppose the unprejudiced consideration of the actual facts.

First Stage of the Illusion.

Happiness is considered as having been actually attained at the present stage of the world's development, accordingly attainable by the individual of to-day in his earthly life.

1. *Criticism of Schopenhauer's Theory of the Negative Character of Pleasure.*—I must in this inquiry presuppose an acquaintance with the so-called Pessimism of Schopenhauer (see "World as Will and Idea," vol. i. §§ 56–59, vol. ii. chap. xlvi.; "Parerga," 2d ed., vol. i. pp. 430–439, and vol. ii. chaps. xi. and xii.), and entreat the perusal of the sections indicated in the above order,—a request for which the reader hitherto unacquainted with Schopenhauer's piquant style will certainly be obliged to me. How far I differ from the views there expounded will be sufficiently evident from what has been previously said. The attempted proof ("Welt als Wille und Vorstellung," 3 Aufl. Bd. ii. S. 667–688) that this world is the worst of all possible ones is a manifest sophism; everywhere else Schopenhauer himself tries to maintain and prove nothing further than that the existence of this world is worse than its non-existence, and this assertion I hold to be correct. The word Pessimism is thus an *inappropriate* imitation of the word Optimism.—Further, futile as I must regard the attempts of Leibniz to demonstrate out of existence the misery of the world in order to save the Supreme Wisdom and the best of all possible worlds, as little can I approve that Schopenhauer overlooks so much the wisdom of the world's arrangements in dwelling on its misery, and, although he cannot quite deny it, that he leaves it as far as possible unnoticed and makes light of it.—Then I keep clear of the notion of guilt which Schopenhauer imports into the

creation. I have frequently expressed myself against a transcendent use of ethical conceptions, because these have a meaning only for conscious individuals in their intercourse with one another. Only this can I conclude with Schopenhauer from the misery of existence, that the creation owes its first origin to an *irrational* act, *i.e.*, to such an one in which reason has had no part, therefore to the *mere groundless will.*—Lastly, however, I have still to signalise Schopenhauer's wrong use of the concept of Negation. As Leibniz endeavours to attribute to pain an exclusively negative character, so Schopenhauer to pleasure; not, indeed, altogether in the privative sense of Leibniz, but in such a way that pain alone is said to arise *directly*, but pleasure *only* to become possible *indirectly*, through abolition or diminution of pain. Now I do not in the least intend to dispute that every removal or diminution of a pain is a pleasure, but not every pleasure is a removal or diminution of pain, and, conversely, it just as much holds good that the removal or diminution of pleasure is a displeasure.

Undoubtedly a reservation must be made which tells in favour of pain—to wit, both pleasure and pain attack the nervous system, and thereby produce a kind of fatigue, which, with the highest degree of pleasure, may become fatal atony. Hence results a need increasing with the duration and the degree of feeling, *i.e.*, a conscious or unconscious will, to cause the cessation or remission of feeling to occur. With displeasure this need, springing from the attack on the nerves, *co-operates* with the direct aversion to the endurance of a pain; with pleasure, on the contrary, it *opposes* the direct desire for the retention of pleasure, and always diminishes the same; nay, it can finally overcome it. (Think of exhaustion in sexual gratification.) Pain is (apart from complete blunting of the nerves by great pain) the more painful, pleasure the more indifferent and cloying, the longer it lasts.

Here lurks already the first reason why, with a perfectly

fair balance for the measurement of direct pleasure and displeasure in the world, the scale would turn in favour of pain through the additional nervous affection. But further, while through this additional need of remission in respect of every enduring feeling, the indirect pleasure, *i.e.*, that arising through cessation of a pleasure, relatively diminishes, it appears even *a priori* that a proportionately much larger part of pleasure than of pain in the world points to an *indirect* origin from the remission of its contrary. But now, since, as will appear from this whole inquiry, it is true that, on the whole, there is far more pain than pleasure in the world, it is no wonder that, in point of fact, through the remission of this pain, by far the largest part of all the pleasure which one meets with in the world finds it sufficient explanation, and but little pleasure remains whose origin is immediate.

Accordingly for *practical purposes* it comes pretty much to what Schopenhauer asserts, namely, that pleasure has an indirect origin, and pain a direct. This can, however, not affect the *principle* of the matter, for it is and remains indisputable that there is also pleasure which does *not* arise through remission of a pain, but is positively raised above the indifference-point of sensation. Let any one think of the enjoyments of agreeable taste and of those of art and science, which latter, since they did not fit into his theory of the negative character of pleasure, Schopenhauer prudently rejected and treated as painless delight of the intellect liberated from the will, as if the intellect liberated from the will could still *enjoy*, or as if there could be a *pleasurable sensation* without a *will* in whose satisfaction it consists! If we cannot avoid claiming relish, the sexual pleasures taken as purely physical and apart from their metaphysical relations, and the enjoyments of art and science as *pleasurable sensations;* if we must grant that these, without a previous pain, without previously sinking below the indifference-point or zero-point of sensation, could positively rise above it; lastly, if we keep firm hold of our

principle that pleasure only consists in the satisfaction of a desire, Schopenhauer's assertion must necessarily be false that pleasure is *only* a remission or cessation of pain.

But now he says, in proof of his theory, the will is, as long as it exists, unsatisfied, for otherwise it would exist no longer; the unsatisfied will, however, is want, need, displeasure. If now it is satisfied, this displeasure is abolished, and therein consists the satisfaction or pleasure; another there is not. This argument appears irrefutable, and yet its consequence is, as shown, in contradiction with experience. The conciliation easily results when one more closely regards the enjoyment of agreeable taste or an art-pleasure, and asks oneself where then the will lurks that, as long as it is unsatisfied, is displeasure. There is neither a displeasure nor an unsatisfied existing will to be found. There remains nothing for it then but to assume that the will is only evoked at the same moment at which it is also satisfied, so that there exists no time for its unsatisfied existence. It is in accordance with this that it is indeed one and the same thing what influences (excites) the will and what satisfies it, as one may directly convince oneself when one comes upon a disagreeable morsel among pleasant tastes, or when faulty dissonances occur in a piece of music; then, namely, the will is indeed set in motion (stimulated), but it is not satisfied, and now at once the displeasure is there. Here, in the case of the will, which, on arising, immediately meets with the satisfaction again annihilating it, it is clear that the pleasure of satisfaction is certainly something positive, not issuing directly and alone from the lessening of pain, that rather even the *indirect pleasure*, presenting itself on the diminution of the pain, must be understood as direct satisfaction *of the* will to get rid of the pain. Had Schopenhauer not brought with him to this inquiry the preconceived opinion of the enjoyment of the intellect independently of will, he would doubtless have perceived these relations, and would not have stopped at his conception of the negative character of pleasure.

All that, however, would perhaps not have sufficed tc establish this conviction in him, if there had not been one thing more in his excuse. We have seen (Sect. C. Chap. iii. vol. ii. pp. 94–96) that the non-satisfaction of the will must indeed by its nature always be conscious; satisfaction, however, by no means directly, but *only then*, when the conscious understanding attains consciousness by the *comparison of opposite experiences;* that satisfaction also is *dependent on external circumstances*, and is anything but a direct and infallible consequence of the will. I beg that the examples there quoted may be read through once more in order to save repetition at this placc.

It deserves particular notice that in the whole vegetable kingdom and the lower stages of the animal kingdom we cannot suppose the degree of consciousness requisite for the comparison of experiences and recognition of their dependence on external causes, that accordingly we must not deem these organisms capable of any apperception of will-satisfaction, thus of any sensation of pleasure, whilst pain and displeasure thrust themselves even on the dullest consciousness with pitiless necessity. But even higher animals must in general be capable of far fewer satisfactions of will than one is usually inclined to assume according to the analogy of man. As concerns man himself, even in him, since of course not every man at every moment of a petty satisfaction of will is compelled to draw comparisons with opposite experiences, in general only such satisfactions of will become conscious, *i.e.*, felt as pleasure, whose accompanying circumstances direct the man, without his assistance, to the contrast of opposite experiences, *e.g.*, unusual, rare satisfactions, either in kind or degree, or such as, through the association of ideas, recall opposite experiences, whether of others or of one's self.

All satisfactions of will that have become habit and rule become ever less felt as such, *i.e.*, as pleasure, the less they permit the memory of opposite experiences to

arise. It is clear that by far the larger part (not intensively but numerically) of the satisfactions of the will is thereby lost to consciousness, whilst the non-satisfactions are felt uncurtailed. Wherefore Schopenhauer says, quite correctly ("Welt als Wille und Vorstellung," 3 Aufl. Bd. ii. S. 657): "We feel the wish as we feel hunger and thirst; as soon, however, as it is fulfilled, it is with it as with the enjoyed morsel, that ceases to be for our feeling at the moment that it is swallowed. Pleasures and joys we miss painfully as soon as they cease; but pains, even when they disappear after long presence, are not immediately missed, but their absence has to be brought home to us by means of reflection. In the degree in which enjoyments increase, the receptivity for them diminishes; the accustomed is no longer felt as enjoyment. For that reason, however, the receptivity for suffering increases; *for the omission of the customary is painfully felt.*"—(Parerga, 2 Aufl. Bd. ii. S. 312): "As we *do not feel* the health of our whole body, but only the little part where the shoe pinches us, so also we do not think of all our perfectly satisfactory affairs, but of some insignificant trifle that vexes us." Untrue, however, is it when he adds: "On this depends the negative character, often emphasised by me, of well-being and happiness, in contrast to the positive character of pain." Undoubtedly there exists in the apperception of pleasure and pain a certain justification of these conceptions, so far as pain becomes conscious by itself alone, but pleasure only in contrast to the idea of pain. Undoubtedly the effects are frequently the same *as if* the theory of Schopenhauer of the negative character of pleasure were correct, but yet there is between both a world-wide difference, and the principle remains untouched that pleasure and pain are in general distinguished as the mathematical positive and negative, *i.e.*, that it is indifferent which sign one gives to the one, which to the other.

It has, again, been very clearly shown how infinitely

more fruitful than mere criticism is reflection on the reasons by which great men have been led to frame false hypotheses. While, namely, we found the hypothesis of the negative character of pleasure just as incorrect as that of Leibniz on the negativity of evil, we have at the same time apprehended three moments, each of which falls into one scale in favour of pain, and which in combination practically yield almost the same result as the theory of Schopenhauer. They are—(1.) the stimulation and fatigue of the nerves, and the need thence arising of the cessation of enjoyment, as of pain; (2.) the necessity of regarding all pleasure as *indirect* which only arises through cessation or remission of a displeasure, but not through instantaneous satisfaction of a will at the moment of the excitation of the same; (3.) the difficulties which oppose the apperception of the satisfaction of will, whilst displeasure *eo ipso* produces consciousness;—we may add: (4) the brief duration of the satisfaction, which is little more than a passing moment, whilst the non-satisfaction lasts as long as the actual will, thus, as there is hardly an instant when an actual will was not present, is, so to speak, eternal, and only always limited by the satisfaction which hope affords.

The first point depends on the nature of organic life, in particular of the nervous functions, as foundation of consciousness; the last three points follow immediately from the nature of the will itself. The latter undoubtedly hold good, therefore, not merely for our world, but for every world that is at all possible as objective form of the will. But the first point will also hold good wherever there is question of a balance between pleasure and displeasure; for since pleasure can only be obtained through the contrast with displeasure in a consciousness already highly developed, but a consciousness again presupposes individuation with the help of matter or its analogue, so also in every other world conceivable as objectified will the law of fatigue and the hebetation of pleasure thence arising

will hold good in this analogue of matter. We may accordingly regard *all four* points as necessary consequences of the nature of the will in respect to pleasure and pain, and have to see in them the eternal barriers which the Unconscious must encounter in every attempt at creation, and which render it *a priori* impossible to fashion a world in which pain should be outweighed by pleasure. But these four points have also the further value of being able to serve in the progress of our *a posteriori* inquiries in every special subject of consideration as an objective corrective of instinctive prejudice, just as the former statement of the most important subjective sources of error (pp. 7–8) serves as a subjective corrective. I beg the reader, therefore, to keep the one as the other constantly in view.

We must still pay some attention to the second of the four points. If we look for examples of such pleasure-sensations as only consist in a cessation or remission of pain, we must carefully beware lest we do not introduce at the same time cases in which pleasure is enhanced by an additional satisfaction of will, as, *e.g.*, the relish of food and the cooling refreshment of drink add to the satisfaction of hunger and thirst, the physical sexual enjoyment to the stilling of the longings of love. Pure examples in the sensuous sphere are a subsiding toothache; in the intellectual, the recovery of a friend from a dangerous illness. When we consider such pure examples, no one will any longer doubt that the pleasure arising through cessation of pain is very much *less* than was that pain, just as conversely pain arising through the cessation of a pleasure is far less than that pleasure.

This phenomenon might at the first blush surprise us, since we regard the intensity of feeling as dependent only on the degree of change, but not on the relation of the beginning or end of the change to the indifference-point of the sensation. However, in my opinion, it is explained in the case of the ceasing displeasure by the subsequent

vexation, detracting from the pleasure, that one has had so long to endure the pain; one feels less bound to return thanks, as it were, to one's fate for the liberation from the pain than entitled to grumble and demand satisfaction for the infliction of the pain, because the whole movement took place below the point of indifference, whereas in the ceasing pleasure the blunting effect of fatigue, renders more indifferent to the termination of the enjoyment. According to this explanation, that lessening of the pleasure in proportion to the pain, in whose cessation it consists, only occurs if the circumstance that the whole movement has taken place below the zero of sensation also actually falls into consciousness. The less the consciousness of the interested person places the movement below the zero-point of sensation, the more as a matter of fact does the pleasure become equal in degree to the displeasure in the cessation of which it consists. This is least possible with sensuous pain; hence nobody would consent to be stretched on the rack in order to enjoy the pleasure of the cessation of the pain. In the intellectual sphere, however, the contest with distress and the rejoicing over every attained victory securing the immediate future is the proof of it. As soon as mankind makes clear to itself that this delight is similarly related to the preceding uneasiness as the remission of pains to the tortures of the rack, and that this movement, equally with that, falls wholly below the zero-point of sensation, so soon will it too enjoy those victories over want as little as the racked enjoy the relaxation of the cords.

What now-a-days is called the spectre of the poverty of the masses is nothing but this dawning consciousness that the struggle with want, care and its alleviation lies entirely on the negative (pain) side of the zero-point of sensation, whilst formerly, when the poverty of the masses was ten times greater, this consciousness was wanting, and the people endured their poverty as sent from God. Another proof how progressive intelligence makes man unhappy.

This contest of man with want is, however, only one example; if we look round at the possible joys of the world, we shall very soon become aware that, with the exception of the physically sensuous, the æsthetic and the scientific enjoyments, there is hardly a happiness to be perceived which did not depend on the liberation from a preceding displeasure. Quite specially, however, does this hold for great and vivid joys. Voltaire says, "Il n'est de vrais plaisirs qu'avec de vrais besoins."

Closely connected with this is the interesting question whether in general pleasure can be a countervailing equivalent for pain, and what *coefficient* or exponent must be assigned to a degree of pleasure to counterbalance for consciousness an equal degree of pain. Schopenhauer, citing the verse of Petrarch, "Mille piacer' non vagliono un tormento (a thousand pleasures are not worth one pain)," makes the eccentric assertion that altogether a pain can never be balanced by any degree of pleasure; that therefore a world in which pain can occur at all is, under all circumstances, with ever so much preponderating happiness, worse than none. This view could hardly be supported; whether, however, there do not lie in it a core of truth so far as the co-efficient necessary for equivalence does not at all need to be = 1, as is usually assumed, that were well worthy of consideration.

If I have the choice either of not at all hearing, or of hearing first for five minutes discords and then for five minutes a fine piece of music; if I have the choice either not to smell at all, or to smell first a stench and then a perfume; if I have the choice either not to taste, or to taste first something disagreeable and then something agreeable, I shall in all the cases decide for the non-hearing, non-smelling, and non-tasting, even if the successive homogeneous painful and pleasurable sensations appear to me to be equal in degree, although it would certainly be very difficult to ascertain the equality of the degree.

Hence I conclude that the pleasure must be *perceptibly*

greater in degree than a pain of like kind, if they are to be equivalent in consciousness, so that one determines their combination as equal to the zero of sensation and prefers it to the latter on a small enhancement of the pleasure or lowering of the pain. For the rest, this coefficient probably fluctuates with different individuals within certain limits, and only its *mean* amount should be greater than 1.

On the causes underlying this remarkable phenomenon I venture to make no supposition. This much is certain, that, if the fact is correct, this circumstance also tells against a preponderance of happiness in the world, for suppose the case that even the sum of pleasure and pain objectively taken were equal, yet their combination subjectively would stand *below* the zero-point, as the combination of a stench and a fragrance is below zero. The world accordingly resembles a money-lottery: the appointed pains one must pay in in full, but the gains one receives only with a deduction, which answers to the difference between the constant coefficient of the pleasure-and-pain equation and 1. Were this remarkable inequality in value of pleasure and pain, which seems to me highly probable, confirmed on other sides, it should be added to the above four points as a fifth. In this sense Schopenhauer says (Parerga, ii. 313): "It is in harmony with this that we commonly find joys far below, pains far above our expectation." (P. 321): "Deserving of envy is no one, of commiseration numberless." (W. a. W. u. V., ii. 658): "Before one declares with such confidence that life is a desirable or thankworthy good, let any one calmly compare the sum of possible delight which a human being may enjoy in his life with the sum of possible suffering which may afflict him in his life. I believe the balance will not be difficult to strike."

It is now our task to inquire whether in the life of the *individual* the sum of pleasure or pain preponderates, and whether in the individual as such the conditions

are given for attaining, under the most favourable circumstances conceivable in one's life, an excess of pleasure over pain. As the field to be viewed is too vast for a simultaneous survey, a solution will be facilitated by considering separately the sum of pleasure and pain according to the main directions of life. But during the future considerations the reader must always keep in mind these premised general observations, since the circumstances mentioned are continually acting as essentially limiting co-efficients of pleasure, whilst, on the contrary, they either leave the pain unaffected or even increase it.

2. *Health, Youth, Freedom, and a Competence as Conditions of the Zero-point of Feeling, and Contentment.*—The states mentioned are mostly claimed as the highest goods of life, and not without reason; nevertheless they fail to afford positive pleasure, save when they have just arisen by transition from the opposite states of pain. During their undisturbed continuance, however, they represent only the zero-mark of sensation, and by no means a positive elevation above it; the building-ground on which the expected enjoyments of life are to be erected. It is in accordance with this that the persistence of the states awakes as little a feeling of pleasure as of pain, since at the zero-point in general there is nothing to be felt, but that every fall from this level into sickness, old age, bondage, and distress is painfully felt. These goods have thus, in fact, the purely privative character that Leibniz would ascribe to evil; they are the privation of age, sickness, servitude, and distress, and are intrinsically incapable of being raised above the zero-point of sensation on the side of pleasure, thus incapable of producing a pleasure, unless by remission of an antecedent pain, even if it consist only of an imaginary fear or care.

In health all this is quite self-evident; nobody feels a limb except when he is ill; only the nervous feels that he has nerves; only he who has diseased eyes that he has those

organs: the healthy, however, perceives only by sight and touch that he has a body. With freedom it is just the same. Nobody feels if he himself determines his actions, for this is the self-evident natural condition, but undoubtedly he feels painfully all external constraint, every invasion of his self-determination, as it were, as an injury of the first and most original law of Nature, that he shares with every animal, with every atomic force.

Youth is, in the first place, the time of life in which alone perfect health and an unimpeded use of the body and mind is found, whilst with age its infirmities also make their appearance, which are felt painfully enough. But, in the second place, youth alone, a direct consequence of the unimpeded use of the body and mind, possesses *the full capacity of enjoyment*, whilst in age undoubtedly all the burdens, inconveniences, vexation, disagreeables, and torments make themselves doubly sensible, but the faculty for enjoyment diminishes more and more. This capacity for enjoyment has, however, still only the value of the level; it is only *capacity*, *i.e.*, *possibility* (not reality) of enjoyment. What is the good, however, of the best teeth, if one has nothing to bite with them?

Finally, also, the competency or assurance against want and privation cannot be regarded as a positive gain or enjoyment, but only as the *conditio sine qua non* of bare life, which has to wait for its enjoyable fulfilment. To endure hunger, thirst, frost, heat, or damp is painful; protection from these evils by needful dwelling, clothing, and food cannot be called positive good (enjoyment in eating does not belong to this category). Were, namely, the bare life assured in its conditions of existence already a positive good, mere existence in itself must fill and satisfy us. The contrary is the case: the assured existence is a torment, unless a filling up of the same is added. This torment, which is expressed in ennui, may be so insupportable that even pains and ills are welcome to escape it.

The most usual filling of life is *work*. There can be no doubt that work for him who must work is an evil, be it in its consequences for himself, as for humanity and the advancing evolution, ever so rich in blessing; for nobody works who is not compelled, *i.e.*, who does not take work upon himself as the less of two evils—whether the greater evil be want, the torment of ambition, or even mere ennui —or who had not the intention through undertaking this evil to purchase for himself greater positive good (*e.g.*, the satisfaction in rendering life more pleasant for himself and those dear to him, or for the value of the performances produced *by means of* work). All that can be said on the value of work reduces itself either to economical advantages (with which we shall deal later on), or to the avoidance of greater evils (idleness is the beginning of all vices); and the utmost that man can attain to is, "that he should rejoice in his own works, for that is his portion," *i.e.*, that he should become habituated to bear the inevitable as well as possible, as the cart-horse at last draws the cart with tolerable good-humour. At work man consoles himself with the prospect of leisure, and in leisure we have to console ourselves with the thought of work. Thus the alternate play of leisure and work comes to this, that the sick turns himself in his bed to get out of his uncomfortable position, but soon finds the new position just as uncomfortable, and so turns back again.

As a rule, work is the price for a secure existence. It is not enough, therefore, that the assured existence represent in itself no positive good, but only the zero-point of sensation; this purely privative good must *still be purchased by pain*, in contrast to health and youth, which one only obtains as gifts. And how great is often the pain which is inflicted on the poor by work! I am not thinking of the labour of slaves, but of the labour of the operatives of our large towns. "At the age of five to enter a cotton-mill or other factory, and from that time onward to be fixed there and perform the same mechanical work for

ten, twelve, and finally fourteen hours, is to purchase dearly the pleasure of breathing" (W. a. W. u. V., ii. 661).

No less considerable sacrifices than the earning of a maintenance does the conquest of a relative freedom demand, for *complete* freedom is never obtained. On the other side, the assurance of existence and the attainable degree of freedom have the advantage that one can in general conquer them by one's own energy, whereas we are altogether passively receptive with regard to youth and health.

If now one actually possesses these four privative goods, the external conditions of *contentment* are given; if then the requisite internal condition, *resignation, acquiescence* in the inevitable, be added, contentment will dwell in the mind so long as no considerable misfortunes and pains afflict it. Contentment *craves* no positive happiness; it is just the *foregoing* of such. It only desires freedom from considerable evils and pains, thus about the zero-point of feeling. Positive goods and positive happiness *can add nothing* to contentment, but undoubtedly they can endanger it; for the greater the positive goods and good fortune, the greater is the probability of suffering by their loss great pains, which temporarily destroy contentment. Contentment can thus be so little regarded as a sign of positive happiness, that rather the poorest and those with fewest wants can most easily obtain permanent possession of it. If, nevertheless, contentment is so frequently lauded as a happy state, nay, as the supreme attainable felicity (Aristot., Eth. Eud., vii. 2: *ἡ εὐδαιμονία τῶν αὐτάρκων ἐστι,* Happiness is the possession of the self-sufficient; Spinoza, Eth., part. 4, Prop. 52, Obs.: Self-contentment is truly the utmost that we can hope), this can *only* be true if the state of *painlessness* and voluntary *resignation* of all *positive* felicity deserves the *preference* before the essentially transient *possession of positive happiness.* Altogether, if, as I believe, it is justifiable to call health, youth, liberty, and an easy existence the

highest goods, and contentment the supreme happiness, it follows at once from that how doubtful must the case stand with all positive goods and positive happiness that one can justly place before them the privative goods, those consisting in mere *freedom from pain.* But what, then, does freedom from pain offer? Truly nothing more than non-existence! If, then, a "but" is still connected with positive goods and happiness, which places them, on the whole, still below contentment, *i.e.*, still below the zero-point of sensation, at which non-existence permanently stands, it is thereby declared that they also rank below non-existence. *Equal* in value to non-existence would only rank the *absolutely* contented life, if there were such: there is none, however, for even the most contented is not always perfectly and in all respects contented, consequently *all* life ranks in value below the absolutely contented, consequently below non-existence.

3. *Hunger and Love.*

> "Until this paragon of spheres
> By philosophic thought coheres,
> The vast machine will be controlled
> By love and hunger, as of old,"

says Schiller very rightly. They are both, not only for progress and development in the animal kingdom, but also for the commencing development of humanity and the ruder states which characterise the same, almost the sole springs of action. If the value of *these* two factors for the individual must be pronounced to be small, there is little prospect of showing the value of individual life for its own sake in other ways.

Hunger is painful in the extreme, which certainly he alone knows who has felt it; its satisfaction, the gratification of satiety, is for the brain the mere removal of pain, whilst for the subordinate centres it undoubtedly may entail a positive elevation above the zero-point of

sensation in the comfortable feeling of digestion. This will, however, for the common feeling or total well-being of the individual, have less weight the more the subordinate centres recede relatively to the brain, which receives only feeble traces of the comfortable feeling of digestion, but feels so much the more depressed in its mental tone and working power through the satiation. Whoever finds himself in the fortunate situation of being able, whenever the commencement of hunger is announced, instantly to satisfy the same, and whoever is not inconvenienced by the lowering of the power of the brain through satiety, may certainly receive through hunger a certain excess of pleasure by the pleasure of digestion; but how few are in this doubly enviable position! Most of the 1300 millions of the earth's inhabitants have either a scanty nourishment, unsatisfying and prolonging life with difficulty, or they live for a time in superfluity, from which they derive no preponderating enjoyment, and must for another period actually starve and suffer want, when they must accordingly endure the pains of hunger for long periods, whilst the pleasure of satiety, with perfect stilling of hunger, only occupies a few hours of the day. But now let any one compare the dull delight of satiety and digestion with the distinct gnawing of hunger or the hell-torments of thirst to which animals in deserts, steppes, and such regions, that in the hot season are perfectly dry, are not seldom exposed. How much more, however, must among many species of animals the pain of hunger exceed the pleasure of satiety in the course of life, which at certain seasons *die* of hunger from want of food, often in considerable numbers, or for weeks and months just on the brink of starvation, prolong their existence in slightly more favourable conditions of life! This happens both with graminivorous birds and birds in the winter of the polar and temperate zones and in the arid tropics, as also with carnivora and beasts of prey, which often for weeks wander about vainly in search of booty until they perish

of inanition. It is not so long since in Europe one calculated on a famine every seven years, and if this has been changed by our present means of communication into mere dearth, *i.e.*, into famine merely for the poorest classes, this or a similar state of things certainly continues to exist in by far the largest part of the earth.

But even in our large towns we read ever and anon of cases of literal dying of hunger. Can the gluttony of a thousand gourmands outweigh the torments of one starving human being?

And yet extreme starvation is with us the rarer and lesser evil produced by hunger; far more fearful is the bodily and mental wasting away of the race, the dying off of children, and the peculiar diseases engendered by it. One has only to read the accounts of the weaving districts of Silesia or of the dens of misery of London. The less, however, a check is given to the progressive increase of humanity by devastating wars, the more the hosts of epidemics disappear by increasing cleanliness and their spread is hindered by precautionary measures, the more must the ability to procure sustenance prove the *sole* natural limit to increase, since the proportion of births remains tolerably the same; and the hypothesis of Carey that hereafter the ability of the human race to procreate and increase will diminish is altogether arbitrary, and justified by no historical analogies.

However great may be the progress of agriculture and chemistry, still at last a point must be reached beyond which the production of the means of subsistence cannot go. The increase of the number of human beings by generation has, however, no limit save that which is assigned by the impossibility of obtaining subsistence; this has always formed the main source of restriction, and will become so more exclusively. This limit, however, is not abrupt and well defined, but it passes from a sufficiency to impossibility of existence through infinitely numerous life-stages, of which each succeeding one is more hungry

and wretched. To deceive instinct the stomach is often filled with substances that are neither agreeable in taste nor nutritious; thus in China, *e.g.*, the poorest class, that cannot purchase rice, eat a kind of sea-tangle, which contains scarcely any nutritive matter. If one thinks of the masses which live on tasteless or insipid aliment (rice, potatoes), one will no longer be able to assert that, for the great excess of pain which hunger produces in the world, the relish connected with eating could offer a certain makeweight.

The result in respect of hunger is then this, that the individual, by the simple stilling of his hunger, never experiences a positive rise above the zero-point of sensation; that under specially favourable circumstances he can certainly gain a positive excess of pleasure by the relish and pleasure of digestion connected with hunger; but that in the animal kingdom and human kingdom, on the whole, the torment and pain produced by hunger and its consequences far outweigh, and always will outweigh, the pleasure connected with its satisfaction. Considered in itself, therefore, the need of food is an *evil;* only the progress of development, to which it acts as a spring through the struggle for food, *not* its own value, can teleologically justify this evil.

I cannot refrain from quoting here the words of Schopenhauer (Parerga, ii. 313): "Whoever wishes to put to a brief trial the assertion that in the world enjoyment outweighs pain, or at least is in equipoise with it, should compare the sensation of the animal which devours another with that of this other."——

As for the other spring of Nature, *Love*, I must in regard to its theory refer to Chap. ii. B. In the animal kingdom one can hardly speak of an active sexual selection on the part of the male, even among the highest birds and mammals; of a passive selection through the struggle of the males in which the strongest remains victor only among a small part of the higher animals.

For the rest, the sexual impulse is not individual, but is purely general. But now in the infinitely larger part of the animal kingdom there do not exist organs of sexual pleasure acting as stimulants to coition; without such accordingly coition is an office indifferent to the egoism of the individual which is carried on by the impelling constraint of instinct, as the spinning of the web of the spider or the building of the bird's nest for the eggs hereafter to be laid. To the absence of enjoyment in the office of fecundation in the case of most animals also the frequently indirect form of this function deviating from direct copulation points. When in the vertebrates a personal physical enjoyment appears to occur, it is at first certainly as flat and insignificant as possible; but soon there is also added the contest of the males for the female, which in many species of animals is waged with the greatest bitterness, and has for its consequence often painful injuries, not seldom also the killing of one of the rivals. Add to that, among those animals which at the time of rut form herds led by the victorious male, the involuntary continence of the younger members, whether they separate into smaller detachments or remain with the main herd, when an invasion of the rights of the head of the family is punished in the cruellest fashion. This involuntary continence of the largest part of the males, and the pains and vexation caused the defeated by the contests, seem to me a hundredfold to exceed the pleasures accruing to the prosperous males from the sexual pleasure. As for the females, in the first place, among most animals they far more rarely couple than the privileged males; and, secondly, the pains of child-bearing in their case far outweigh the pleasure derived from copulation.

With man, especially the cultivated, birth is more painful and more difficult than for any other animal, and mostly entails even a longer sick-bed. I need not hesitate, therefore, to declare the total sufferings of child-bearing for the woman greater than the total physical pleasures

of coition. We should not be misled by the circumstance that impulse causes the woman to pronounce the contrary decision, practically, and perhaps also theoretically. Here we have a glaring case where impulse blinds the judgment. One has only to think of that woman who could not be deterred from sexual intercourse by the repetition of the Cæsarean operation, and one will estimate the value of such judgment more truly. The man seems to be better off in this respect; but he only seems so.

Kant says in his "Anthropology" (Werke, vii. Abth. 2, S. 266): "In the former (the epoch of natural development), in the state of nature, at any rate, he is in his fifteenth year impelled by the sexual instinct and capable of reproducing and maintaining his kind. In the second (the epoch of civic development) he can (on the average) hardly venture it before the twentieth year. For although the youth has early enough the power to satisfy his own and his wife's inclination as citizen of the world, he is far from possessing the power to maintain his wife and child as subject of a state.—He must learn a trade, obtain customers, before commencing housekeeping with his wife, when, in the more polished classes, the five-and-twentieth year may well pass before he is ripe for his destination. How now does he fill up the interval of a compelled and unnatural continence? Hardly otherwise than with vices."

These vices, however, soil the æsthetic sense, blunt the delicacy of the mind, and not seldom lead to immoral actions. Lastly, through their inherent immoderation, and for other reasons, they unsettle the health, and only too often sow the seeds of ruin for the following generation.

But whoever actually and exceptionally keeps free from all the vices filling up the provisional period, and by an effort of reason overcomes the torments of aroused sensibility in ever-renewed struggle, has in the interval between puberty and marriage, the interval, if not of most endurance, yet of the most flaming sensibility, to endure

such an amount of pain, that the subsequent total of sexual pleasure can never make amends for it. The age of marriage for men is, however, constantly rising with advancing civilisation; the provisional period thus becomes continually longer, and is longest precisely in the classes where the nervous sensibility and irritability, thus also the torment of privation, is greatest.

But now in Man the purely physical side of sexual love is subordinate, far more important is the individualised sexual instinct, which promises an extravagant felicity of never-ending duration from the possession of a particular individual.

Let us first consider the consequences of love in general. One side generally loves more ardently than the other; the less loving is usually the first to draw back, and the other feels faithlessly abandoned and betrayed. Whoever could see and weigh the pain of deceived hearts on account of broken vows, as much of it as is in the world at any moment, would find that it alone exceeds all the happiness derived from love existing at the same time in the world, for the simple reason that the pain of disillusion and the bitterness of betrayal lasts much longer than the blissful illusion. Still more cruel becomes the pain for the woman who has sacrificed everything for her lover from genuine deep love, only to live in close contact with him as a clinging plant. If such an one be torn from her stay and cast adrift, she stands truly fallen, *i.e.*, without support in the world; deprived of her strength, robbed of the protection of love, she must, a detached flower, wither and fade,—or shamelessly plunge into the current of base life in order to attain forgetfulness.

How much married and domestic peace is not destroyed by clandestine love! What colossal sacrifices of paternal happiness and well-being in other respects does not the unblessed sexual impulse demand! Father's curse and expulsion from the family circle, even from the social circle in which one has become rooted; such is the

price paid by man or maiden in order merely to be united to the beloved one. The poor seamstress or servant-girl who consumes her joyless existence in the sweat of her brow, she, too, falls one evening a prey to the irresistible impulse; for the sake of rare brief joys she becomes a mother, and has the choice either of committing infanticide or of spending the largest part of her earnings, scarcely sufficient even for herself, on the maintenance of the child. Thus for long years she must bear care and want with threefold severity, if she will not throw herself into the arms of a life of vice, which secures her for the years of youth a less toilsome livelihood, only to be followed by an age of the more frightful misery; and all this for the little bit of love!

It is a pity that there are no tables of statistics showing what percentage of all love-affairs in every rank of life lead to marriage. One would be horrified at the small percentage. Leaving out of sight old bachelors and maids, even among married couples one will find the number by no means large of those who have not behind them a little broken-off affair; many, however, who could tell of several. Of the concluded marriages, again, only a very small part are concluded from love, the rest from other considerations: one may gather from that how small a part of all love-affairs terminate in the haven of marriage. Of this small part, however, again, very few attain a so-called happy marriage, for happy marriages are altogether much rarer than one might think, in consequence of the make-believe in order to keep up the appearance of happiness; but, in fact, the happy marriages are least of all to be found among those concluded from love, so that of the small part of the amours terminating in the haven of marriage, the majority again comes worse off than if they had ended in marriage. Those few, lastly, which lead to the happy marriage attain this *not through love itself*, but only by this, that the characters and persons happen so to fit that conflicts are avoided and love passes into friendship.

Those rare cases in which the happiness of love gently and imperceptibly glides into that of friendship, and all bitter disillusion is spared it, are so rare that they are even balanced by those bad marriages, which are concluded from love. Of all love-affairs not terminating in marriage, however, the larger part does not attain its goal at all, and the smaller part, which does attain it, makes the people, at least the female part, still more unhappy than if they had not attained it.

After these general considerations we cannot be doubtful that love prepares for the individuals concerned far more pain than pleasure. Hardly anywhere will instinct so much oppose this result as here, and perhaps few will grant it but those in whom instinct has lost its power through age.

Let us, however, consider the process in satisfied love in detail, in order to see that even here pleasure rests substantially on illusion. Undoubtedly, in general, the quantity of the pleasure is proportional to the strength of the satisfied will, provided that the satisfaction falls in its full extent into consciousness,—a supposition which, in perfect strictness, is so much the less admissible the more obscure is the will and the more its contents extend from the region of unconsciousness into that of consciousness.

But let us leave this on one side, and grant that a very strong will, no matter how arisen, to possess the beloved object is consciously present; then undoubtedly must the satisfaction of this will be felt as intense pleasure, and that the more the more clearly the person concerned becomes conscious of the fulfilment of his wish as of a fact dependent on external circumstances; the greater therefore is the contrast of the fulfilment with a preceding recognition of difficulties and obstacles. A caliph, on the other hand, who is conscious that he has only to issue his commands in order to possess any woman that pleases him, will hardly be at all conscious of the satisfaction of his will, however strong it may be in any particular case.

Hence it follows, however, that the pleasure of satisfaction is only purchased by preceding pain at the supposed impossibility of attaining possession; for difficulties whose conquest one foresees as certain are already no longer difficulties.

But, according to our previous general considerations, the preceding pain through the certainty or probability of non-success will be greater than the corresponding pleasure in fulfilment. But now, as certainly as the final enjoyment on fulfilment is a real one because it depends on the satisfaction of an actually existing will, so certainly is the idea on which the enjoyment depends an illusion. Consciousness, namely, finds in itself a violent longing for the possession of the beloved object, which surpasses in intensity and passionateness every phenomenon of will else known to it. Since, however, at the same time, it does not suspect the unconscious goal of this will (which lies in the nature of the child to be created), it supposes a prospective extravagant enjoyment to be the goal of that extravagant longing; and instinct supports this illusion, since the man, if he should mark that there is a cheating of his egoism for the sake of alien ends, would soon seek to suppress the instinct of passionate love. Thus comes to pass the illusion with which the lover proceeds to the sexual act, and which may be experimentally proved to be such by this, that the satisfaction of the will on the possession of the loved one remains just the same if a counterfeit, from whom his will would recoil with disdain and abhorrence, be successfully imposed on the lover without his knowledge.

Nevertheless the pleasure in the satisfaction of the accomplished will is quite real,—but *this* pleasure was indeed not in the mind of the lover, but rather that extravagant bliss *by which* he thinks the violent will for possession set in motion!

Of such a bliss or pleasure there exists, however nothing at all, since the enjoyment is purely compounded

of the satisfaction of that violent will for possession to be first set in motion, and of the common physical sexual enjoyment. When the violence of the impulse allows consciousness to a certain extent to breathe again and to attain some clearness, it becomes aware of the disillusion of its expectation. Every disillusion as regards an expected enjoyment is, however, a pain, and indeed a so much greater pain the greater was the expected enjoyment, and the more certainly it was expected. Here, then, when an extravagant bliss, expected with absolute certainty, turns out to be pure illusion (for the two real moments of the enjoyment were indeed as a matter of course expected besides this blessedness), the pain of disenchantment must reach a high degree; so high a degree that it perfectly counterbalances, when it does not outweigh, the really existing enjoyment. Certainly the impulse, not annihilated at a stroke, but continually renewed for some time, although with generally decreasing strength, prevents this disillusion from being apprehended immediately and in full extent by consciousness; the renewed pining after satisfaction perverts the judgment, and obstinately keeps up the illusion of the contrary experience for the future.

But this duping of the conscious judgment by impulse does not last for ever. The attained possession soon becomes customary property. The idea of the contrast with the difficulties of the attainment disappears more and more; the will for possession becomes latent, as no disturbance of possession is threatened, and the satisfaction of this will becomes ever less felt as pleasure. Now the disenchantment finds for itself a way more and more into consciousness.

But *this* disillusion is not the only one that attains to consciousness, but there are many others. The lover had fancied he was entering on a new era, to be transported by possession, as it were, from earth to heaven, and he finds in his new state all the old surroundings and daily drudgeries. He had thought to gain in the

beloved one an angel, and finds now, when the impulse no longer distorts his judgment, a human being with all the human faults and weaknesses. He had imagined that the state of extravagant felicity would be eternal, and he now begins to doubt whether he has not been very much deceived as regards the expected bliss of possession. In short, he finds that everything is as before, but that he was a great fool in his expectations. The only real enjoyment in the first time after acquiring possession, the satisfaction of the accomplished will, has disappeared, but on the ecstasy supposed to be eternal has supervened sorry disenchantment yielding a lasting pain, which is only very slowly extinguished by the accustomed devotion to the common daily round.

Undoubtedly very rarely on the conclusion of a marriage, at least on one side, are there not sacrifices made, were it only of liberty ; these sacrifices now emerge into consciousness, and increase the displeasure at the disillusion. If elsewhere only vanity succeeds in hiding pain and misfortune and vaunts a non-existing happiness and pleasure, here also shame co-operates to the same end, since one would hardly ascribe the disenchantment to one's own stupidity. The erewhile lovers seek to hide the pain of disenchantment not only from the world and one another, but if possible also from themselves, which again contributes to enhance the discomfort of the situation.

Thus then the real enjoyment in the union of lovers must not only be paid for in advance by fears, anxiety, and doubt, nay, often temporary despair, but subsequently again with the pain of disenchantment—that enjoyment, the perception of whose illusory character at the moment of enjoyment itself can only be averted by the violence of the impulse suspending, or indeed corrupting, the judgment.

But now we have so far paid little attention to the state before the union of the lovers, and yet it is just here where the tenderest, most blissful sensations are found, as, in particular, those in the first flush of the dawn of the newly

opened heaven. On what does that unquestionably real pleasure depend? On *hope*, on nothing but hope, which only anticipates a future good, and only imagines that that will be ecstatic bliss; on a hope which is hardly conscious of itself as hope, but with every moment is revealed in a truer light. The greatest difficulties opposing union cannot destroy this hope and its felicity; but that it is really nothing but hope is proved by this, that the lovers despair, and even destroy themselves, when the impossibility of their union has become certainty. If, now, this love-happiness preceding union is only hope of the happiness to be expected after union, it becomes illusory when that is seen to be illusory.

This is the reason why only first love can be true love; in the second and after loves the impulse meets with too great resistance from the consciousness, which now more or less clearly perceives the illusory nature of the first love. Thus Goethe says in "Truth and Fiction," speaking of "Werther": "Nothing, however, gives more occasion to this weariness (this loathing of life) than a return of love. . . . The thought of the Eternal and the Infinite, which peculiarly elevates and supports it, has vanished; it appears transient, like all that recurs."

Whoever has once understood the illusory nature of successful love after union, and therewith also of that before union, whoever has come to see the pain outweighing the pleasure in all love, for that man the phenomenon of love has no more health, because his consciousness offers resistance to the imposition of means to ends that are not *his* ends; the pleasure of love has been for him undermined and corroded, only its smart remains to him unrelieved. But although such an one will not be able entirely to resist the impulse, this will yet be the endeavour of his reason, and he will be, at any rate, successful in any particular case in moderating the fervour of love into which he fell as ingenuous youth, and in reducing accordingly also the degree of pain and the

excess of pain over pleasure which would otherwise have fallen to his lot. He will, however, at the same time be *conscious* that he is entangled against his will in a passion that causes him more pain than pleasure, and with this perception *from the standpoint of individualism* the doom of love has been pronounced (comp. i. 231–233).

These last reflections refer only to that love which is so fortunate as to attain its end; but if we include all cases, this account of the worth of love wears a very unfavourable aspect. Illusory pleasure and predominant pain, even in the most successful case; generally thwarting of the will without attaining of the goal, accompanied by grief and despair; annihilation of the future of so many women by loss of chastity, their sole social support,—these are the results we have found.

It could not admit of doubt that reason would counsel entire *continence*, were it not that the torment of the ineradicable impulse which thirsts for fulfilment is a *far greater* evil than a temperate indulgence in love (comp. i. 240). One must therefore pronounce the sentence of Anakreon to be wholly true, which runs—

> χαλεπὸν τὸ μὴ φιλῆσαι, Not to love is hard,
> χαλεπὸν δέ καὶ φιλῆσαι, But also hard to love.

If love is once recognised as evil, and yet must be chosen as the *less* of two evils as long as the impulse persists, reason necessarily demands a third, namely, *eradication of the impulse, i.e.*, emasculation, if thereby an eradication of the impulse be attainable. (Comp. Matt. xix. 11–12, "All men cannot receive this saying, save they to whom it is given. For there are some eunuchs which were so born from their mother's womb; and there are some eunuchs which were made eunuchs of men; and there be eunuchs *which have made themselves eunuchs for the kingdom of heaven's sake.* He that is able to receive it, let him receive it!")

From the point of view of the endæmonology of the

individual, this is in my opinion the sole possible result. If anything cogent is to be advanced to the contrary, it can only be such considerations as require of the individual a stepping out of the sphere of his egoism. The result as regards love is thus the same as regards hunger, that it is *in itself* and *for the individual* an *evil*, and its justification can only be sought in this, that it conduces to the progress of development in the manner shown in Chap. ii. B.

4. *Compassion, Friendship, and Domestic Felicity.*—Compassion, on which, according to Aristotle, mainly the pleasure in the tragical (comp. my "Aphorismen über das Drama"), and, according to Schopenhauer, all morality depends, is, as every one knows, a feeling composed of pain and pleasure. The reason of the pain is clear; it is simply the fellow-feeling with the obvious pain of another, which may be so severe as to allow no trace of pleasure to survive in the compassion, but converts it wholly into heart-rending woe, whose awfulness impels to avert the gaze. Think of the spectacle of a battlefield after the fight, or a man lying in uncontrollable convulsions.

But whence the pleasurable feeling found in moderate compassion comes is more difficult to understand. Of the satisfaction caused by the possible affording of assistance, there is here, of course, no question, for this comes after the commiseration. The mischievous joy of malignity is the only pleasurable feeling which the sight of another's suffering is able directly to arouse, but this any one can very well distinguish from the mild pleasure of compassion.

I see no other possibility of comprehending the pleasure in compassion, and have also nowhere found the slightest attempt at any other explanation than this, that the contrast of foreign suffering with one's own freedom from this suffering at once *excites* and *removes* the latent aversion to the endurance of such suffering, and causes the removal to be *distinctly realised.* Hereby, certainly, the pleasure in compassion is declared to be purely egoistic, yet I fail

to see how this can detract from the dignity or the noble consequences of compassion. It is in perfect harmony with this that, for very finely strung, self-renouncing natures, compassion is a highly unpleasant stimulant, a true torment, which they seek in every way to avoid, whilst man indulges his compassion with greater ease the ruder he is, and that, further, at the spectacle of very great suffering even the coarser mind can so far forget itself in others' well-being, that the same effect arises as when more finely-feeling souls view a smaller misery, so that compassion is still only pain. If the coarse multitude revels in alien suffering, one must not forget that it also possesses sufficient bestiality to unite with the com passion more or less the delight in cruelty, which takes pleasure in alien misery as such; one must, therefore, exercise caution in citing the instance of the coarse multitude to decide the question whether pleasure or pain predominates in compassion as such. According to my subjective judgment the latter is decidedly the case; but whether the judgment of others tallies with my own or not, it is undoubted that the emotional crudeness of mankind on the average is steadily decreasing, and that with decreasing crudeness the pain in compassion is more and more gaining the upper-hand over the pleasure.

But now the case turns out still more unfavourably for pleasure when we take into account the immediate *consequences* of compassion in the mind. Compassion, namely, at once excites the desire to assuage others' woe, and this is also the end of this instinct. This desire finds, however, only in very rare cases a partial, still more rarely a total satisfaction; it will, therefore, far more frequently excite pain than pleasure.

If, then, the title of the less of two evils cannot be denied to the instinct of compassion as a corrective and restricter of egoism, and of the injustice springing from the latter, yet in itself regarded it is still always an evil, for it brings to the sufferer more pain than pleasure. Comp.

Spinoza, Eth., part iv. Prop. 50: "Compassion is for a man who does not live according to the guidance of reason in itself bad and useless. Proof: For compassion is (according to Def. 18) pain, thus (according to Prop. 48) in itself bad. The good, however, that follows from it . . . we seek to do according to the mere command of reason," &c.

Of *sociality* and *friendship* the same cannot be said, although it has often been asserted, and for certain dispositions also rightly. Thus, *e.g.*, La Bruyère says, "Tout notre mal vient de ne pouvoir être seul." (We may compare also Schopenhauer, "Parerga," i. 444–458.)

But certainly it may be maintained that the sociable instinct is an instinctive need arising from the weakness and impotence of the individual whose satisfaction, like health and freedom, just places man at the level where he is able to pile up certain positive enjoyments, and that only a small part of true friendship—which, moreover, is so rare—represents a value positively exceeding the zero-point of feeling.

As there are herding animals, so is Man a social animal. Impotent, unprotected against the forces of Nature, and at the mercy of every foe, his instinct directs him to cultivate the society of his fellows. Here it is really the felt want that begets the need, and the pleasure of *this* sociality is only the removal of that want or need.

In addition to warding off distress and hostile attacks, in the second place, the social community has the advantage over solitary effort in facilitating the production of positive achievements, *e.g.*, domestic works, economic or artistic production, the increase of culture or knowledge through exchange of thought, the collection of interesting novelties; all this a society renders more possible, but does not as such effect; it is only the foundation, which may remain unutilised or utilised in the most varied fashion. It is thus in this point only the potentiality of pleasure, but not pleasure itself; this be-

longs rather to the structures to be reared on this foundation, and must be sought in these, not in sociality. Nay, even the positive pleasure which may be built up on its basis may for the most part be attained in like or little-altered fashion even in solitude.

That, on the other hand, sociality, through the regard for others, and the constraint which it imposes upon the individual, is attended by very real inconveniences, and occasionally with hopeless misery, our "societies" prove.

From social life springs a greater mutual interest, *i.e.*, an increased sympathy. If in each individual the sum of pleasure should outweigh the sum of pain, then also as regards each individual the sum of joy in common would outweigh the sum of sorrow in common, did not the weakening of sympathetic joy prevent this through the envy which is unavoidable even in respect of the dearest friend. But since in the life of the individual the sum of pain exceeds the sum of pleasure, so sympathy for the same likewise must consist of predominant pain, and this can in no case be balanced by the circumstance that one is sure of sympathy for one's own sorrows and joys in the breasts of friends. Certainly we pine for consolation, but when one well considers it, what sort of consolation can it afford that one with one's own disagreeables and vexations spoils the fair humour also of one's friend?

Nevertheless, the solitary endurance of grief or vexation is so tormenting, that we feel ourselves relatively happy in being able to pour it out, although in recompense the vexation of our friend will *vice versa* be poured out on ourselves. Here, too, it turns out that the enhancement of mutual sympathy in friendship is the less of two evils, of which the other only appears the greater on account of one's own weakness.

When, therefore, the highly lauded bliss of friendship is subjected to a true estimation, it is found to depend partly on man's feebleness in enduring suffering, since, in

fact, very strong characters are least in need of friendship, partly however in pursuing a common end; in a word, on similarity of interests, whence also the apparently more inseparable friendships are loosened or expire when on one side the dominant interests change, so that they now no longer correspond to those of the other. The pleasures attained through mutually pursued interests can, however, also only be put down to the account of these interests, not directly to that of friendship. The firmest community of interests exists in *marriage;* the community of goods, of earnings, of sexual intercourse, and of the education of children are strong bonds, which, in alliance with the polar completion of the spiritual qualities of both sexes, certainly suffice to found a strong and lasting friendship, which also perfectly suffices without the aid of love in the narrower sense to explain the beautiful and sublime phenomena of readiness for self-sacrifice in married life. Add to that the powerful force of habit. As the dog maintains the sublimest and most touching friendship and fidelity for his master, to whom not his own choice but chance and custom have bound him, so also the relation of spouses is essentially an alliance of habit; wherefore both *mariage des convenance* and love-matches after a series of years exhibit on the average the same physiognomy.

Dühring, who in his "Worth of Life" pleads the cause of love, and asserts that it does not disappear in marriage, comes (pp. 113–114) himself to the following conclusion:—"The love of married couples may, therefore, in powerfulness of its effects, perhaps not lag behind passionate love. The feeling is only *latent,* as it were, emerges, however, in all its force when a hostile fate has to be encountered. The forces which once maintained a living play of sensation now in the matured relation are in equipoise, to become again *perceptible* for feeling on any disturbance of the equilibrium." If the feeling is latent, it does not exist for consciousness; and if it emerges into

consciousness merely on some disturbance, it is only felt as pain; hence, in either case, makes nothing *for* the value of life, which is here alone under discussion. The magnitude of its effects may, however, be just as well derived from friendship and the attachment of habit.

In any case, there is in most marriages so much discord and vexation, that when one looks with unprejudiced eye, and is not deceived by the vain attempts at dissimulation, one hardly finds one in a hundred that is to be envied. This is simply due to the imprudence of men and women, who also do not endeavour in little things to accommodate themselves to mutual weaknesses; to the accidental way in which characters are assorted in marriage; to the equal insistance on rights where indulgence and friendship should compromise; to the convenience of discharging all displeasure, vexation, and ill-humour on the nearest person, who must listen; to the mutual irritability and embitterment which is increased by every fresh case of a supposed infringement of rights; to the sorry consciousness of being chained to one another, the absence of which would prevent a host of inconsideratenesses and disharmonies through fear of consequences. Thus we get that matrimonial cross, which can so little be regarded as exceptional, that Lessing is not so far wrong when he says—

> "No more than one bad wife has ever yet been known;
> The pity only is, each holds her for his own."

This does not at all contradict the fact that the power of habit at once asserts its right and sets itself in violent opposition when a disturbance or solution of the marriage is threatened from without. In both cases it is always only the painful side of the relation which imposes itself on consciousness. The rending of the worst marriage, which furnished a genuine hell for the partners, always causes so much pain to the survivor, that I have heard an experienced man say, "If a marriage is ever to be broken,

then the earlier the better; the more prolonged and closer the ties of habit, the more enduring the pain of separation." One has only to draw from this perfectly correct judgment the logical consequence, then is separation best before union.

Sensible people, whose judgment is not biassed by impulse, are also usually quite clear respecting this, that, from the rational standpoint of *individual* well-being, non-marriage is better than marriage. If no love and no external ends (rank, wealth) impel to the marriage contract, there is, in fact, only one reason for choosing marriage as the supposed *lesser* of two evils; thus, for a girl to evade the terrors of old-maidhood, for a man to avoid the inconveniences of bachelorhood, for both to escape the torments of the unsatisfied instinct or the consequences of illicit gratification.

Commonly, however, they make the experience that they have been bitterly deceived concerning the greater of the two evils, and only shame and considerate tenderness forbids them to confess it. How uncomfortable also the unsatisfied instinct to found a household and family may become for old bachelors and spinsters has been already mentioned (Chap. i. B.)——

When, now, the parties are married, they begin to long for children—another instinct, for the understanding can hardly possess this longing. The instinct goes so far as to urge to the adoption of others' children, and to the education of them as if they were one's own.

That the latter also is no act of reflection is already evident from the instinct of monkeys, cats, and many other mammals and birds that do exactly the same. Moreover, by this procedure an already existing child is merely put into a better situation of life than would else have fallen to its lot. It would be different if a child still to be created, to be fashioned say in a retort by a chemical process, were to be adopted in default of one's own.

"Let one only imagine," says Schopenhauer ("Parerga," ii. pp. 321–322), "that the generative act was neither a

want nor accompanied by extreme pleasure, but an affair of pure rational reflection: could then the human race continue to exist? Would not rather every one have so much compassion for the coming generation as to prefer to spare it the burden of existence, or at least *be unwilling to take on itself* (the responsibility) of imposing such burden in cold blood?"

Besides the direct instinct to rear children, the desire for children with people in easy circumstances or increasing in wealth has yet another ground. These, namely, at a certain stage of life begin to perceive that they themselves have no enjoyment of their surplus wealth; if, however, they were in consequence to forego the cares of business, their interest in life would be gone, and they would fall a prey to the dreariest emptiness of existence and ennui.

To escape this evil they desire the lesser evil, possession of children, in order by this expanded egoism to have a motive for the continuance of their business activity.

But if one objectively compares on the one hand the joys, and on the other the sorrow, chagrin, vexation, and cares which children bring their parents, the predominance of pain can hardly be doubtful, although the judgment biassed by instinct strenuously opposes it, especially in women, with whom the instinct to rear children is far stronger.

Let one first of all compare the sum of satisfaction which is produced by the birth, and the sum of pain and sorrow which is called forth by the death of a child in the hearts of all concerned. Only after calculating the resulting excess of pain can one proceed to the contemplation of their life itself. To this end I recommend the chapter entitled "Mother's Frenzy" in Bogumil Goltz's "Zur Charakteristik und Naturgeschichte der Frauen."

In the first period predominates the very considerable discomfort and trouble of nursing and of vexation with careless servants, then the difficulties with neighbours and

the anxiety of sickness; later on, the care of marrying the daughters and the worry over the follies and debts of sons; add to all this the anxiety in procuring the necessary means, which with the poor is greatest in the first, among the educated classes in the later periods. And with all the moiling and toiling, all the worry and care, and the constant fear of losing them, what is the real happiness that children bring him who possesses them? Apart from the diversion which they afford as playthings, and the occasional gratification of vanity owing to the hypocritical flattery of amiable gossips—hope, only the *hope of the future.*

And when the time comes to fulfil these hopes, and the children are still alive and unspoilt, they quit the parental home, go their own way, usually into the wide world, and write even only when in want of funds. So far then as that hope is *egoistic*, it is *always* deceptive; so far, however, as the hope is merely *for* the child, not *in* the child, what then?

In old age, as we shall see, human beings lose all illusions, save the one illusion of the sole instinct remaining to them, in that they cherish for their children the realisation of their hopes from the same miserable existence, whose vanity they have in all respects perceived in their own case. If they grow old enough to see their children also old people, they certainly lose that too; but then they hope for their grandchildren and great-grandchildren. Man is never too old to learn.

5. *Vanity. Sense of Honour, Ambition, Lust of Fame and Power.*—Love, honour, and the acquisitive instinct are in the mental sphere probably the three most powerful moving springs. We shall here consider the second of these. Honour may be divided into an objective and subjective honour. A man's *objective* honour is in general terms others' estimation of him.

We may divide objective honour into—

Positive Honour:

A. *Outward* Honour:
- *a* Repute of Possession.
- *b.* „ „ Position.
- *c.* „ „ Rank.
- *d.* „ „ Beauty.

B. *Inward* Honour:
- *a.* Reputation for Industry.
- *b.* „ „ Intelligence and Culture.
- *c.* Moral Reputation.
  - (α) For Charity.

Negative Honour:

  - (β) For Justice.
- *d.* Civil Honour.
- *e.* Female (Sexual) Honour.

Negative honour each one inherently possesses until he loses it; positive honour must be acquired by circumstances (birth, actions, achievements). The former denotes only the zero-point of worth; the latter positively exceeds the same. The repute of possession depends on power; that of position on power and performance; easily ossifies, however, in forms coming down from earlier times. The reputation of rank is, so far as it exceeds the reputation of the power and labour connected with rank, an artificial creation of the state, to enable it to pay low salaries. The repute of beauty must not be looked for among ourselves, but among peoples that have the sense for the beautiful (ancient Greeks). The repute of industry is proportional to the economic value of the work; that of intelligence and culture especially forms a substitute for labour, when mental work is not regarded as work (respect of peasants for scholarship). Moral honour is positive only in active love; that of justice is merely negative; likewise will and sexual honour, which latter only applies to woman.

Subjective honour is twofold: the *direct* subjective honour of a man is his estimation of himself; *indirect* is his estimate of the estimate of himself by others, or his estimate of objective honour.

The former is called self-estimation, self-respect, self-esteem, pride; if the estimate remains *below* the true value: modesty, humility; if it *surpasses* the true value: over-estimate of self, conceit, arrogance; the latter, on the contrary, is called vanity. Although men may refuse to allow this word in the case of noble efforts, essentially it is the same, whether a girl is vain of the report of her beauty or a poet of the fame of his works. Both parts together, thus pride and vanity, make up subjective honour, which now, according to the object of the estimation, admits of the same division as objective honour. As regards the negative part, it is called sense of honour; as regards the positive, ambition. The direct and indirect part of subjective honour may stand to one another in very different relations of intensity; commonly, however, the latter will preponderate; indeed so far preponderate that one often meets with the view, as if subjective honour *only* consisted in this evaluation of the valuation of others; whereas, on the contrary, this is vanity *pur et simple* to assign any value to the judgment of others concerning one's own worth, whilst one at the same time denies all value to oneself, thus regarding the judgment of others as false.

Pride, the high estimate of oneself, is an enviable quality, no matter whether the estimate is true or false, if one only regards it as correct. Certainly an inflexible pride is rare; mostly it has to sustain alternating struggles with doubt, or even despair, which cause more pain than pride itself pleasure. Pride also increases the sensitiveness to external opinion, and is on its part compelled to adopt the hypocritical mask of modesty, if it will steer clear of unpleasantnesses. All this may be considered pretty well to balance the pleasure of extreme self-esteem. But now, as for that sense of honour and ambition which rests for the most part or exclusively on vanity, although they may for our present stage of development be valuable practical instincts, yet one cannot deny that in the first place they are vain, *i.e.*, rest on illusions, and, secondly,

that they procure for him who is possessed by them a thousand times more pain than pleasure.

Female chastity alone protects social relations from complete disorder. The citizen sense of honour restrains the as yet blameless from trespasses or crimes, from which neither the fear of temporal nor of eternal punishment could deter. Scholarly ambition spurs on the boy and youth in their arduous acquisition of the material of culture demanded by our age. The ambition to achieve something great, which, in regard of rare and considerable performances and deeds, is called lust of fame, sustains the starving artist or scholar, whose creative force would be paralysed if the impossibility of ever in the least particular satisfying his ambition or love of fame could be demonstrated to him. Thus the sense of honour prevents greater evils and ambition furthers the evolution of humanity; but apart from the circumstance that, with the higher development and power of reason, subjective honour may very well be dispensed with, and its good effect otherwise produced (one may recall the difference between the French bravery from *point d'honneur* and the German from sense of duty), yet at all events the individual, the instrument of the impulse, must suffer therefrom.

The possession of negative honour can afford no pleasure, save when it has been recovered after apparent loss (*e.g.*, through calumny); in itself it answers only to the zero-point of sensation, as it represents only the zero-point of worth. It is thus, as all similar moments, a fertile source of pain, but no source of pleasure, except through the quite special and rarely occurring interruption of displeasure.

Ambition, however, is certainly a positive impulse, and indeed one of those "which, like salt water, makes one the more thirsty the more one drinks."

Wherever one listens one hears the stereotype lamentations of Government functionaries and officers at neglect and tardy promotion, the wailings of artists and scholars at suppression by envy and cabals, everywhere vexation at the

undeserved favouring of others. For a hundred mortifications of ambition there is hardly one satisfaction; the former are bitterly felt, the latter received as long-deserved tribute of justice, if not with the repining, that they did not come earlier. The general over-estimate of self causes every individual to raise extravagant claims; the universal mutual envy and disparagement of merit causes the refusal of even just claims. Every satisfaction of ambition only serves to screw up one's claims more highly, and in consequence it must be a triumph outdoing all former ones that can produce a fresh satisfaction, whilst each of the former ones does not obtain equal recognition on account of this deficit of pain.

Take the case of a young public singer she rises step by step to a certain elevation in the favour of the public; the triumphs connected with this rise of favour she claims as her right; life in them is to her as the air which she breathes; she is amazed if ever they are wanting. But a younger rival comes at last, and thrusts her into the second rank, as she her predecessors; and the fall from her height is a thousand times more painful to her than its converse was pleasurable, whilst she hardly felt as happiness the actual tenure of the same.

As in this instance, so with all ambition and lust of fame; even when the achievements or works remain, they do not always maintain the same interest for the public.

But now, in addition to all this, ambition is *vain*, *i.e.*, rests on illusion. Even the estimate of worth, as it obtains in objective honour, depends in part on illusion. I need only mention the artificially inflated honour of rank and nobility derived from the Middle Ages, but among us already almost extinct in its old significance. And even where the value that objective honour prizes is no illusory one, yet its estimate is far too often false. The *vox populi vox dei* only holds in questions that are vital questions for the development of the people, and where, in

consequence, the Unconscious instinctively guides the judgment of the masses. In all other things the *vox populi* is so blind, dazzled by outward show, misled by claquers, given over to commonplace, and without understanding for the good, true, and beautiful, that one rather may be almost sure it is on a wrong tack. (Comp. Schopenhauer, "Parerga," ii. chap. xx.) In all cases that are not vital questions of development or finally settled by science, one may be confident, *a priori*, that the majority are wrong and the minority right; nay, a joint judgment is even so difficult, that, when a number of clever people agree, they almost certainly perpetrate some folly.

To such a judgment that man surrenders his life-happiness who makes ambition his guiding star. Even in small matters certainly no one would continue to concern himself about the opinions of mankind, before whom could be laid all the calumnies and adverse judgments uttered by friends and acquaintances behind his back. And now as to the ambition which fishes for orders, dignities, and titles! Every one knows that they are not apportioned to merit, but in the best case to him who is favoured by fortune, or to length of service; to those who happen to have influential relatives or advocates, to the cringer and flatterer, or even as reward for services not of the cleanest; and yet—incredible to relate—the world is greedy for them!

But now suppose the object of objective honour *had* a value, and the judgment of those in whose judgment objective honour consists *were* correct, *still* ambition would be empty; for what sort of value can it have for a man what others think and judge of him? None whatever, except so far as the character of their action towards him is at the same time determined by their judgment on him. In this, however, the opinion, as such, is quite indifferent, and is only regarded as means of thereby attaining a particular kind of action. This is, therefore, no ambition in the ordinary sense, as little as we call him covetous

who strives to get money, but who also spends all that he gets; it is the assigning a value to objective honour *as such* that makes ambition and the sense of honour, and the circumstance that with the objective honour *partially* also the conduct of men towards the honoured one becomes different and more advantageous to him, is only a gladly accepted accidental consequence.

For the most part, indeed, the modification of action will be limited to this, that the *behaviour* becomes *more deferential*, thus to an expression of adjudgment of objective honour, which, to a sensible man, must be just as indifferent as the opinion itself. True utility hardly flows at all from positive objective honour, only harm from injured subjective honour, so that finally all the significance of objective honour consists in this, that one has to guard against harm through injury to negative honour. All the subjective value of an objective honour as such rests, however, manifestly on imagination, for the theatre of my joys and sorrows is still *my* head and not the head *of others;* thus it can neither add to nor take away from my weal and woe what other people think of me, therefore their opinion as such can have no effective value for me, consequently ambition is vain. The sense of honour which, according to our explanation, relates to negative honour, is indeed abstractedly just as insignificant; but this much can, at any rate, be said for it, that if one once lives among men, one must at least act as if one had some regard for objective honour, because otherwise the world would fall on one as the crows on the owl in daylight.

If herewith I declare the sense of honour and ambition to be empty and illusory, by no means is any judgment pronounced on the value of the *objects* of honour; I have even to a certain extent the greatest regard for the same, *e.g.*, for morality. But *if* such objects have a value, they have it not because they are objects of honour, as the wrong-headed might think, but because they are directly felicific. Most distinctly is this so with posthumous fame;

Spinoza can indeed not be the better for it that Collegian N. says, "That was a clever fellow;" but that he was able to think such thoughts, therein lay his satisfaction. Undoubtedly what renders me happy may lie in this, that I am conscious of doing or accomplishing something for the good of others; but that is still always the sympathetic joy in a real happiness, whereas, on the contrary, the *recognition* of the value of my deeds or performances procures these others by no means pleasure, but rather displeasure. The difference is the same as when I bestow something on a beggar; do I rejoice that through my gift his distress is momentarily relieved, my joy has a real object; do I watch for his "Thank you, sir," or "God bless you," in order to relish the recognition, I am a vain, foolish man.

Thus has also the desire of honour appeared to be, if a useful, yet also an illusory instinct, causing more pain than pleasure. (Comp. Schopenhauer, "Parerga," i.; "Aphorisms on Worldly Wisdom," chaps. i., ii., and especially iv.)

With the lust of power it is just the same. So far as it is a mere endeavour after freedom, it is not yet a positive impulse; so far as the power of ruling is only sought to procure for one's self more enjoyments by its help is it mere means to alien ends, and must be measured by the value of those enjoyments. There is, however, also a passion for commanding and ruling as such. It is clear that this is possible only at the expense of infringing the same impulse, and, moreover, the impulse for liberty in the ruled. Further, however, the same holds good of it as of ambition and loss of fame: the more one drinks of it, the thirstier one becomes. The *accustomed* power is no longer enjoyed, but without doubt all resistance to the same most painfully felt, and the greatest additional sacrifices made for its removal. On the whole, and with regard to the consequences for others, then, the love of power is a far more pernicious passion than ambition.

6. *Religious Edification.*—Already in Chap. ix. B. we mentioned that the exaltation of religious feeling in devotion and edification, which is always more or less of a mystical nature, is able to afford so great a bliss that it carries its subject above all earthly sorrows. But in the first place, these high degrees of exaltation are rare, for as they are essentially of a mystical nature, they cannot be acquired by industry and trouble, but presuppose a disposition, a peculiar talent, as much as art-enjoyment; and, secondly, they are, like all pleasure, not to be had without a characteristic displeasure.

One comes to see this best when one considers the life of penitents and saints. The highest degrees of religious exaltation are hardly conceivable without a prolonged mortification of the "flesh," *i.e.*, not only of sensual appetites, but of all secular pleasures. Rarely is this renunciation supported by the consciousness of the illusory nature of earthly pleasure and the predominance of the pain simultaneously arising from earthly longings, for that requires philosophy, but for the most part the foregoing of earthly felicity is felt as a *true* sacrifice, whereby the higher mystical religious felicity is to be *purchased*, so that the subject of it properly speaking never frees himself from the lamentation on the loss of earthly happiness itself. But however that be, the long-suppressed natural impulses surge up from time to time only the more mightily, and the violence of the struggles which the renouncers, certainly in ever rarer but ever more powerful relapses, have to sustain testifies to the magnitude of the torments experienced by them for the sake of the heavenly kingdom, until at last habit and bodily infirmity gradually induce a more equable state.—Of the bodily pains and privations of Asceticism itself I shall be silent, since it is, if decidedly a very effective, yet not indispensable means to the attainment of the religious mystical exaltation.

When we pass to the lower stages of edification which come into contact with secular life, an item of pain not

mentioned above becomes especially important: fear of one's own unworthiness, doubt of the divine grace, anxiety concerning the future judgment, the fear of the burden of past sins, however small the latter may appear in the eyes of others. Taken all in all, pleasure and pain will weigh tolerably equally even in religious feeling; but should really an excess of pleasure be the result, the possibility of which I should more readily admit in this sphere than in any other (with the exception of art and science), the other consideration must also be taken into account, that this pleasure also is illusory. We have already laid bare this illusion in Chap. ix. B.; it briefly consists in this, that the endeavour immediately to grasp and to enjoy in conscious feeling the identity of the one Unconscious with the conscious subject, which exists in reality and may easily be comprehended by the understanding as rational truth, must in its nature of necessity remain without result, since consciousness cannot possibly transgress its own limits, thus cannot apprehend the Unconscious as such, therefore, also, not the unity of the Unconscious and the conscious individual.

If the awakening and delivering from illusion is with the progressive evolution of humanity inevitable in any sphere, it is in the religious. One cannot say that the present time of unbelief is just as transitional as, *e.g.*, that of the cultured ancient world at the birth of Christ; although more religious periods than the present may recur, yet a similar era of faith to that of the Catholic Middle Ages has been for ever rendered impossible by the universal modern mental culture. Even the Middle Ages were only possible because classical culture had been buried beneath ruins, and this we have now no more to fear. The more nations cultivate their rational tendencies, the more they come to stand and advance on their own feet, *i.e.*, on their consciousness, the more they lose their mystical talent; this is the provisional talent of youth, the maturity of conscious understanding attends the manhood of

nations. We may analogically conclude from the gradual destruction of religious illusions that also the destruction of other illusions will assuredly be in time accomplished, as soon as they are no longer needed as springs of progress, whether they be superseded by other powerful impulses (reason), or the goal be attained in the direction of their special efficiency. So far as the delight of religion consists in the hope of transcendent felicity after death, it will be dealt with later on.

7. *Immorality.*—Immoral action or wrong-doing proceeds from the egoism inevitably attending individualism, and consists originally in this, that in order to procure a gratification or to avoid a pain, I inflict on one or several other individuals a greater pain. All other forms of wrong-doing are derived from this original one. It is therefore clear that the essence of wrong or the immoral consists in this, to alter the proportion of pleasure and pain in the world unfavourably to pleasure, since the pain of suffering wrong is greater than the pleasure (or the spared pain) of doing wrong. It follows from this, the greater the immorality the greater the sufferings of the world. (To apply the idea of justice to this proportion is, as has been shown above, altogether inadmissible.) Suppose, then, pleasure and pain were perfectly balanced in the world (which case truly, as one among infinitely many possible proportions, has *a priori* an infinitely small probability), the existence of immorality would immediately induce the preponderance of pain. In an intrinsically evil world, however, it will cause the cup of misery to overflow the more, as no harm imposed by Fate pains so acutely as that which one's fellow-beings have inflicted. As regards the vileness, worthlessness, malice, and meanness of mankind, Schopenhauer indulges in vivid descriptions, which can hardly be pronounced overdrawn, and the repetition of which I must here dispense with. Only one thing I will here add, namely, that

the imprudence of man often produces the same effect as malignity, in that it is often the cause of the bitterest torments to one's neighbours, without bringing any advantage or enjoyment, as wickedness manifestly does.

If, however, wrong-doing increases the suffering of the world, on the other hand, right-doing is by no means able to diminish the same, for it is, indeed, nothing else but the maintenance of the *status quo* before the first wrong, thus no positive elevation above the level line. No one in possession of his clear sight will have any enjoyment therefrom, unless when the fear of wrong is taken away from him. He, however, who gives every one his due can have no motive for pleasure at all, for he has curbed his individual will, and yet has done no more than his duty. A genuine joy only the exercise of positive morality, of active charity, can afford; yet it will always be conjoined for the doer with the pain of sacrifice, for the receiver with the pain of shame at benefits received. This augmentation of the pleasure of the world through active charity is of no account in comparison with the mass of immorality. At all events, the positive morality of active charity is also only to be regarded as a *necessary evil,* which may serve to alleviate a still *greater one.* It is far worse that there are alms-receivers than it is good that there are alms-givers, and only the Talmud finds distress and poverty in order that the rich may have occasion to show their good works. Accordingly, all works of charity only soothe the greater or lesser woes springing from human necessity. Were man free from suffering, self-sufficient and without needs, like a god, what would he want with works of charity?

8. *Scientific and Art-Enjoyment.*—As feels the wearied traveller, when, after long wandering in the desert, he at last espies an oasis, so do we feel when, on approaching Art and Science, at last a gleam of light appears in the night of struggle and suffering. When Schopenhauer himself in

the "Parerga" (2 Aufl. ii. 448) insisted that the mental condition in artistic or scientific reception or production is mere painlessness, one might think that he had never known the state of ecstasy or rapture into which one may fall over a work of art or a newly opening sphere of science. But if he had seen the positive nature of such a state of supreme enjoyment, he could no longer have been able to assert that it was involuntary and unmotived, but he would have seen that it is the condition of supreme and perfect positive *satisfaction*, and satisfaction *of what*, if not of a will? Certainly not of the vulgar practical interest or will, but of the endeavour after knowledge, or after that harmony, after that unconscious logic under the veil of sensuous form; in short, after that somewhat in which beauty consists, no matter wherein it consists. That ecstatic rapture (*e.g.*, over a performance of music, over a picture, a poem, a philosophical treatise) is certainly something extremely rare; even the capacity for it is only the endowment of favoured natures, and even these will not be able to boast of too many such moments in their life. This is as it were a compensation which falls to the lot of such sensitive natures for the pains of life, which they must feel far more strongly than other men, whose obtuseness makes much easier to them.

Whether at the same time the latter do not on the whole fare better is hardly doubtful; for since pain so much preponderates in life, a blunter feeling for it would not be too highly paid by the deprivation of a pleasure never missed though great in itself, and in every case confined to a few moments of life. This is confirmed by the fact that men on the average think so much less of the value of life, the finer their feelings and the more intellectual they are. What holds good of the extreme case holds, however, just as well of the intermediate stages, which fill up the interval between the capacity for the highest ecstasy and insensibility to all and every art. From the circumstance that every one is indifferent to this or

that art one can certainly not conclude in general to the obtuseness of his feelings, but certainly when anybody is indifferent to art in general.

Now let any one ask himself what percentage of the earth's inhabitants altogether are, in any degree worth mentioning, susceptible to artistic and scientific enjoyment, and one will cease to rate the importance of art and science for the world's happiness in general too highly. Let one consider further how small a percentage of the recipients, again, are able to procure for themselves the enjoyment of personal creation, of artistic or scientific production, which considerably exceeds that of reception.

In estimating this reception of the common people, one should, however, not forget to eliminate the causes of interest independent of art itself; thus, *e.g.*, curiosity or pleasure in the horrible or gruesome, the interest in national singers or story-tellers, the delight in dancing stimulated by popular music, the regard for practical utility in the interest in scientific communications, &c. But among the educated classes many affect an interest, and consequently a capacity of enjoyment, in regard to art and science which they do not possess. One has only to remember how many are tempted to become artists and scholars by the prospect of a career which perhaps pleases them better on account of its freedom, without having any vocation for the same. If one rejected all the uncalled and untalented, the ranks of scholars and artists would sensibly melt away. The prospect of future position and the facilities of entrance (scholarships, &c.) tempt to the scholar's career; the freedom of the vocation and the nature of the work, which appears more like sport, often, however, the mere hope of profit, entice to the artist's life. Think of the unhappy girls who prepare themselves for becoming music-mistresses. Further, let one take into account everything that is not produced by pure love of art and science, but by ambition and vanity. Let once the artist or savant attain the certainty that no

one will ever know the authorship of his works, although hereby ambition is by no means entirely disappointed, since a man's name is something accidental and indifferent, especially for the future, yet more than the half of the pleasure in his performances will be taken away. Were there, however, a means of really at the same time depriving all artists and scholars of all ambition and vanity, assuredly production would almost cease, if it were not compelled to be mechanically continued for the sake of bread.

But now the troop of dilettanti! How little sense and love for the subject, how terrible the want of all understanding, how dependent on fashion and pretentious show,—and yet this dilettante crowding of the arts and sciences! The riddle may thus be read: not for their own sake are the arts sought, but as showy tinsel to adorn one's own dear self. The equally unintelligent critics are enraptured at the dress if the *person* pleases them, and despise it if they have no other ground for flattering the person; they then contemn the dilettante performance the more profoundly the more genuine value it possesses, because they think themselves bound to abash with fitting scorn the audacious assumption that any object may possess intrinsic merit. Of course, under such circumstances, the aim becomes to produce startling effects in as many directions as possible, in order to dazzle every blockhead in the easiest way.

This is the principle of modern education, especially of girls; a couple of drawing-room pieces on the piano, a few songs, a little foliage-drawing and flower-painting, to chatter in a few modern languages and to read the literary scribble of the day, then they are "finished." What else is it than systematic instruction in vanity, in every acceptation of the term? And with this juggling can one believe in delight in art? In aversion for art, rather, which reveals itself from the moment of marriage, when vanity no longer gets the better of love of ease. With

boys it is not much better. They too must play the part of dilettanti for the sake of their parents' vanity. And then in music, as universal instrument, the unlucky, encyclopædic, soulless piano! In science, likewise, ambition and vanity must aid. Only ambitious boys are able to go willingly to school; considering the subjects taught and our scholastic methods, ambition apart, learning is scarcely conceivable without extreme aversion.

Add to this that in science, quite otherwise than in art, the enjoyment of reception is extremely small compared with that of production, because the ardent longing fails for that knowledge of whose sure and easy attainment one is beforehand convinced. Who to-day is still able to have a tithe of the enjoyment from the knowledge of photography or the electric telegraph that the inventors had, or even as those who at the time of invention watched each new advance with eagerness?

If now we deduct all the receptivity and enjoyment in art and science which depend on mere appearances or affectation, whether they are affected from ambition and vanity or for the sake of gain, or because such a career has once been adopted for other reasons, of the seeming enjoyment of art and science existing in the world a very considerable, I believe by far the larger part, will fall away. The remainder, however, does not exist, without being purchased by a certain displeasure, although I shall by no means dispute that the pleasure of enjoyment predominates. This is clearest in the pleasure of producing. As is well known, no master ever yet fell from heaven, and the study which is requisite before one is ripe for a remunerative productivity is disagreeable and toilsome and mostly brings little pleasure, unless through overcome difficulties and hope of the future. In every art the technique must first be acquired, and in science one has first to attain the height of the special department if production is not to lag behind what already exists. What wearisome books has one not to read only to conscientiously convince one-

self that there is nothing valuable in them, and others, again, to pick a grain of gold out of a heap of sand! Truly these are no small sacrifices. When one at last has advanced so far in one's preparations and preliminary studies as to be able to produce, the really sweet moments are still only those of conception, succeeded by long periods of mechanical elaboration. And not always is one disposed for production. If it were not for the urgent wish to complete the work in a definite space of time; if ambition or love of fame did not act as an incentive, or outward circumstances compel execution; lastly, did not the gaping spectre of ennui lurk behind idleness, very frequently the pleasure to be expected from production would not conquer the love of ease; nay, in spite of all, one is tempted only too often to cease labouring at the precious work.

The musician and scientific teacher, moreover, easily become disgusted with their calling through the monotony of their compulsory professional duties. The dilettante is still worse off with his production. His taste and understanding are usually in advance of his facility of performance, and hence his performances do not satisfy him, unless he be very vain and conceited.—Relatively less are the feelings of pain accompanying receptive enjoyment. In Science, however, they are far greater than in Art; *e.g.*, the reading of a strictly scientific book is in itself a labour, the undergoing of which always costs a certain amount of effort—an effort which most people would never make for the sake of a possible enjoyment.

Least fatiguing is the receptive enjoyment of *Art*, and I shall almost appear to trifle if I mention the disagreeables connected therewith; yet they are important, since with increasing love of ease (*e.g.*, in age) they are, in fact, able to deter most receptive minds from obtaining the enjoyment of art. They are the visiting of the galleries, the heat and closeness of the theatres and concert-rooms, the risk of catching cold, the fatigue of seeing and hearing

which is wont to be so severe, because payment has to be made for viewing the whole gallery or hearing the entire concert, whilst half of the entertainment were sufficient. Of the enjoyment of amateur performances and the subsequent debt of compliments I would rather be silent, as my readers may perhaps be amateurs themselves.

The result then is, that of the few inhabitants of the earth who *seem* called to enjoy science or art, very few *are* really called, and most affect the call from ambition, vanity, the desire of gain, or other reasons; that those to whose lot such enjoyments really fall must yet pay for them with all kinds of less or greater sacrifice of pleasure; that thus, on the whole, the excess of pleasure which is produced by science and art as such in the world is exceedingly small compared with the sum of existing misery; and that this excess of pleasure is, moreover, distributed to those individuals who feel the pain of existence more profoundly than others—so much more profoundly than others that the pleasure they obtain is far from being a compensation. Lastly, it must be added that this species of enjoyment more than any other spiritual pleasure is limited to the present, whilst others usually are enjoyed in anticipation. This is connected with the peculiar circumstance previously discussed at length, that the same sense-perception which affords satisfaction also evokes the will which is satisfied.

9. *Sleep and Dreams.* So far as sleep is dreamless, it is a complete inactivity of the brain and brain-consciousness, for as soon as the brain becomes at all active, it begins to sport with images. Such an unconscious state renders also all pleasurable or painful feeling impossible; but if a nervous stimulation occur which must excite pleasure or pain, it also interrupts the inactive state of the brain. Unconscious sleep, therefore, as regards the properly human or brain-consciousness, must be considered as equal to the zero-point of sensation. This does

not preclude other nerve-centres, like the spinal cord and ganglia, from continuing to be conscious; this is even necessary for the continuance of respiration, digestion, blood-circulation, &c.; but this is still merely a profoundly animal consciousness, occupying somewhat the level of an inferior fish or worm, which can have only very slight importance in the account of *human* happiness But also in this animal consciousness of the lower nerve-centres alternate pleasure and pain; in the normal and undisturbed exercise of the vegetative functions a pleasure can only be felt in case that animal consciousness suffices for the perception of this pleasure. Every disturbance, however, is immediately felt as pain, and pain always procures for itself the degree of consciousness that is necessary for its perception.

There is one source of error which may lead to our assuming a clearer satisfaction in unconscious sleep than can in fact exist; this is the comfortable feeling that one often detects on falling to sleep or awaking, *i.e.*, in passing from the dormant to the waking state and conversely. But here the cerebral consciousness is still actual, and that satisfaction manifestly a perception of the cerebral consciousness; one therefore forgets that just this cerebral perception of satisfaction disappears in dreamless sleep. Of the satisfaction, however, which my lower nerve-centres feel I can form no conception, because *I* am simply and only my brain-consciousness. Yet, notwithstanding, unconscious sleep is the relatively happiest condition, because it is the only *painless* one known to us in normal life.

As for dreams, all the troubles of the waking state are prolonged into the dormant condition, but not the one thing which may in a measure reconcile the cultivated with life—the pleasures of Science and Art. Add to that that a joy cannot well be otherwise expressed in dreams than as a pleasant, cheerful *mood*, *e.g.*, the feeling of being disembodied, of floating, flying, and the like, whilst displeasure is expressed not only as mental mood, but also in

all sorts of definite inconveniences, vexation, chagrin, quarrelling, and conflict, inability to accomplish one's desires, or other cross purposes and disappointments. On the average, therefore, the verdict with regard to the worth of dreams will be in accordance with that on the real life, but, on certain sides, will be far more unfavourable.

Falling to sleep is, if one can fall quickly to sleep, a pleasure, but yet only because fatigue had made waking a torment, and falling to sleep frees me from this torment. Awakening is also said by many people to be pleasurable. I have, however, never found it so, and fancy that this assertion rests on a confusion with the pleasure which consists in not being obliged to rise when actually weary, but in being able to go on slumbering with semi-consciousness. But how few people are in a position to enjoy this pleasure! That an awakening quickly passing into a state of complete vigilance should be a pleasure to anybody I cannot believe; I regard it rather as a pain, since one has once more to exchange the ease of rest and sleep for the drudgery of the day. That on being wide-awake, and after a sufficient period of sleep, the fatigue of the past evening has disappeared and the *status quo* of capacity for work and enjoyment is restored, cannot possibly pass for positive pleasure, since only the level of sensation has been again attained. But it certainly is a decided pain when one rises fatigued, not having had one's fill of sleep. In this position, inability to spare sufficient time for sleep before work, we find, however, a large part of the poorer classes of all nations. Even of Westphalian peasants I have heard that the whole family, after the field-work of the day, is compelled to spin for some hours into the night, although this labour is worth little more than a farthing an hour.

10. *The Acquisitive Instinct and Comfort.*—Under the acquisitive instinct I here mean especially the effort to possess beyond what is absolutely necessary, *i.e.*, beyond

dwelling, food, and clothing for self and family. I need hardly set myself to prove the small percentage of the population, even in civilised communities, for whom a satisfaction of this impulse is possible, as modern statistics speak both loudly and terribly. If we ask, however, what advantage a possession beyond the necessary can afford, it is especially this, that as a capital sum, and still more through its permanent investment, it protects from distress and removes the fear of future distress. But this utility is no positive one, it only secures from future and wards off present pain (fear and anxiety). In the second place, property gives the power of attaining positive gratifications; it begets the repute of possession; it confers power and influence over those who expect advantages from my possessions; it purchases the pleasures of the palate, and even the delights of love; in short, property, or its symbol, money, is the enchanter's wand, which procures access to all the enjoyments of life. But now we already know that all these enjoyments not only rest on illusions, but even the endeavour after them on the whole always brings more pain than pleasure; that thus all endeavour after them is *doubly foolish*. The pleasures of the palate and the enjoyments of science and art are the only exceptions. The former, however, have again the disadvantage that their privation, when they are withdrawn by change of circumstances, is felt far more painfully than their possession was before found agreeable. To procure the gratifications of science and art, money is undoubtedly convenient, yet one cannot say that much is required. But as for the purchase of love, one should remember the two following points: first, what Goethe says—

> "In vain thy mistress' heart to bend,
> The gold into her lap dost throw;
> Love must for nought her raptures lend,
> If thou love's joys wilt truly know."

And then, what holds good of the purchased possession of women far more than of spontaneous surrender, that

hereby, and in its consequences for her whole life, the woman experiences far more of pain than the purchasing man can ever obtain of pleasure. So far, then, as riches lead to the desire for women, and increase ambition and love of domination, they are absolutely detrimental to life-happiness. Still more pernicious, however, does the acquisitive instinct become if it forgets that property is only an intrinsically worthless means to further ends, and regarding it as end in itself, turns into covetousness and avarice. Then, indeed, just as ambition and love themselves, it rests only on illusion, and becomes through the insatiableness of the instinct, whose thirst is extinguished by no satisfaction, whose least non-satisfaction, however, causes pain, a true torment.

If nothing could be added to the foregoing, the real importance of the acquisitive instinct for the happiness of life would be exhausted with protection from future want and with the procuring of the pleasures of science and art together with the gratifications of the palate; in that case we should have to ascribe to this impulse rather an economic value as an instinct careful for the evolution of humanity, than of direct importance for the welfare of those concerned; but we have not yet mentioned its most important function in the latter respect, to wit, the *making life comfortable.* The keeping of servants, equipages, comfortable dwellings in town and country, of majordomos and stewards, what is the object of it all except to make life comfortable? For the value of luxury as such is always wholly illusory.

But is comfort a positive pleasure, or does its agreeableness not rather consist in the removal of discomfort and reduction of the same to the threshold of sensation? Active motion, exercise, effort, and labour are disagreeable; passive motion and repose, on the contrary, are comfortable; but although one may understand how effort and motion may produce pain by means of the invasion of bodily health caused by the expenditure of force, yet

it is absolutely unintelligible how repose, unchanged persistence, is to produce a positive pleasure; it can manifestly only represent the zero-point of sensation.

We accordingly come, strange to say, in the case of that which excites the greatest envy, wealth, to the same negative result as in the case of the bare prolongation of existence wherewith we began. This is certainly significant and characteristic for the worth of life.

It is beyond a doubt that the acquisitive impulse can always only be means to further ends, and its value must be measured by their value; but that in no case can it lay claim to intrinsic worth, and that, when it does so, it immediately falls into the rank of illusory impulses that produce an excess of pain. Compare on this Luke xii. 15: "Take heed, and beware of covetousness: for a man's life consisteth not in the abundance of the things which he possesseth;" and Matt. vi. 19–21 and 24–34.

11. *Envy, Jealousy, Chagrin, Pain and Lamentation for the Past, Repentance, Hatred, Vindictiveness, Anger, Sensitiveness,* and other qualities and passions of which common sense sees that they bring more pain than pleasure (comp. vol. ii. pp. 36–37), I need not specifically notice, especially as there is reason to hope that, as time goes on, they will be more and more suppressed by the reason. In estimating the present state of the world they still, however, weigh heavily in the balance.

12. *Hope.*

"And, however hard the burden,
That he faint not by the way,
Hope with dreams of bliss enduring
Feeds him till his dying day!"

However ill it goes with man, so long as a spark of vital force glows within him, he clings to hope of future happiness. Were there no hope in the world, despair would be the order of the day, and notwithstanding the

instinct of self-preservation and the fear of death, we should have to record innumerable suicides.

Thus hope is the necessary auxiliary instinct of the self-preserving impulse; it is that which alone renders possible for us poor fools the love of life in defiance of our understanding.

Hope is a *trait of character.* There are people who from natural disposition always see the future black, others who always regard it of rosy hue (Dyskoly and Eukoly). Eukoly springs from a certain elasticity of the mind, an abundance of energy and vitality, which is not diminished by the most palpable experiences, and after the heaviest strokes of fate raises its head with the old spirit. No quality of character is so dependent on the general bodily constitution and the influences of the blood-circulation on the nerves and brain as this tendency to look hopefully upon the future. No quality of character, however, is so important in respect to the subjective influence of thought in considering the question of the worth or worthlessness of life. As now manifestly, even with the greatest worthlessness of life, hope is a *useful* instinct (whilst, on the other hand, if life really possessed a value, one could not see what would be the utility of a gloomy view as a mental characteristic), we must be extremely on our guard against a corruption and perversion of our judgment by the former instinct.

Without doubt hope is a *very real pleasure.* But what, then, does one hope? Unquestionably to catch and retain pleasure. But if happiness is not to be had, because, as long as one lives, pain always preponderates over pleasure, it follows that hope is *a contradiction and worthless;* that it is indeed the *illusion* κατ' ἐξοχήν; that its function is just to *dupe* us, *i.e.*, to make fools of us, in order only that we may endure to perform our yet uncomprehended task. But he who has once acquired the conviction that hope itself is as worthless and illusory as its object, must very soon find his instinct of hope enfeebled and depressed by

this cognition of the understanding; the only thing which still remains possible to him as object of hope is not the greatest possible happiness, but the least possible unhappiness. This was already seen by Aristotle (Eth. Nicom., vii. 12): ὁ φρόνιμος τὸ ἄλυπον διώκει, οὐ τὸ ἡδύ. Therewith, however, all *positive* significance is stripped from hope.

But even he who never, or not completely, has discovered the illusory meaning of hope, might yet, at least for his past (for instinct only misleads him as regards the future), be compelled to allow that nine-tenths of all hopes, nay, far more, are frustrated, and that in most cases the bitterness of disappointment was greater than the sweetness of hope. The correctness of this assertion is confirmed by the rule of common prudence that our expectation should always be at a minimum, as only in that case are we able fully to enjoy what good there is in things, and otherwise the immediate enjoyment of the present time might be impaired by the deceived expectation. Consequently for the instinct of hope also the result is yielded that it is both illusory, and *within* the sphere of its special illusions rather brings more pain than pleasure.

13. *Resumé of the First Stage of Illusion.*—Suppose it lay in the nature of the will to produce, as it were, in gross an equal amount of pleasure as of pain, yet the net result of pleasure and pain would in general be modified unfavourably to pleasure by the following five factors:—

(*a*.) Nervous fatigue increases the repugnance to pain, diminishes the effort to retain pleasure; thus increases the pain of pain, diminishes the pleasure in pleasure.

(*b*.) The pleasure which arises through the cessation or remission of a pain cannot by a long way balance this pain, and of this kind is the largest part of existing pleasure.

(*c*.) Pain thrusts itself on consciousness, which must feel it; not so pleasure, which must, as it were, be dis-

covered and inferred by consciousness, and is therefore very often lost to consciousness where the motive for its discovery is wanting.

(*d.*) Satisfaction is short and quickly fades; pain endures, so far as it is not limited by hope, so long as desire exists without satisfaction (and when does not such exist?).

(*e.*) Equal quantities of pleasure and pain united in a consciousness are not of equal value; they do not compensate one another. but pain remains in excess, or the exclusion of every sensation is preferred to the questionable union.

These five items produce by their co-operation approximately the same result as if pleasure, as Schopenhauer deems, were something negative, unreal, and pain the alone positive and real.

If one considers the several phases of life, the various desires, impulses, ambitions, passions, and states of mind, they fall, according to their importance as conducive to real happiness, into the following groups:—

(*a.*) Such as bring *only* pain, or as good as no pleasure at all (comp. No. 11).

(*b.*) Such as represent only the zero-mark of sensation, or the level of life, the privation of certain kinds of pain, as health, youth, liberty, a competence, comfort, and in largest part also communion with one's fellows, or sociality.

(*c.*) Such as have a real importance only as means to ends lying beyond them, whose value therefore can only be measured by the value of these ends, which, however, regarded as ends in themselves, are illusory, *e.g.*, striving after possessions, power, and honour, partly also sociality and friendship.

(*d.*) Such as bring indeed a certain pleasure to the actor, but to him or the sufferers a pain far outweighing this pleasure, so that their total effect, and reciprocity being supposed, also the effect for all concerned is pain,

e.g., wrong-doing, lust of power, choler, hate and vindictiveness (even so far as they keep within the bounds of right), sexual seduction, and the food-instinct of flesh-eaters.

(*e.*) Such as, on the average, cause those experiencing them far more pain than pleasure, *e.g.*, hunger, sexual love, love of children, compassion, vanity, ambition, lust of fame, lust of power, hope.

(*f.*) Such as rest on illusions, which must be seen through in the progress of mental development, whereupon then indeed the pain arising through them is just as much diminished as the pleasure, but the latter far more speedily, so that hardly anything remains of it, *e.g.*, love, vanity, ambition, lust of fame, religious edification, hope.

(*g.*) Such as are perceived with clear consciousness as evils, and yet are voluntarily undertaken in order to avoid other evils that are regarded as still greater (no matter whether they are so or not), *e.g.*, work (instead of want and ennui), marriage, adopted children, and also the surrendering oneself to those impulses, of which one has perceived that they bring preponderating pain, the suppression of which, however, is regarded as still more tormenting.

(*h.*) Such as bring preponderating pleasure, although a pleasure purchased by more or less pain, *e.g.*, art and science, which, however, fall to the lot of relatively few, and with still fewer meet with a genuine love for and capacity of enjoying them; which few, again, are just those individuals who feel more acutely the other sorrows and pains of life.

In all this one should bear constantly in mind the assertion of Spinoza, "*that we neither endeavour after, will, yearn for, nor desire anything because we hold it to be good, but rather that we hold it to be good because we endeavour after, will, yearn for, and desire it*" (Eth., pt. 3, prop. 9, obs.), and always and everywhere apply this truth as

corrective to one's emotional judgment rebelling against the results of rational reflection.

If, then, we put together the general and special considerations, there emerges the undoubted result that at present pain not only preponderates in the world in general to a high degree, *but also in each single individual, even him who is placed in the most favourable circumstances conceivable.* It further follows that the less sensitive individuals, and those endowed with a more obtuse nervous system, are *better* off than the more sensitive natures, because with the less amount of the perceived pleasure and pain *the difference in favour of pain also* becomes less. This thoroughly agrees with empirical observation in the case of man, and has, however, universal validity on account of its deductive character, so that it may be extended also to animals and plants.

It is in accordance with experience that the individuals of the lower and poorer classes and of ruder nations are happier than those of the elevated and wealthier classes and of civilised nations, not indeed because they are poorer and have to endure more want and privations, but because they are coarser and duller. One need only remember "the shirt of the happy man," in which story there lies a deep truth. And accordingly I also maintain that the brutes are happier (*i.e.*, less miserable) than man, because the excess of pain which an animal has to bear is less than that which a man has to bear. Only think how comfortably an ox or a pig lives, almost as if it had learned from Aristotle to seek freedom from care and sorrow, instead (like man) of hunting after happiness. How much more painful is the life of the more finely-feeling horse compared with that of the obtuse pig, or with that of the proverbially happy fish in the water, its nervous system being of a grade so far inferior! As the life of a fish is more enviable than that of a horse, so is the life of an oyster than that of a fish, and the life of a plant than that of an oyster, until

finally, on descending beneath the threshold of consciousness, we see individual pain entirely disappear.

On the other hand, the higher sensibility sufficiently explains why men of genius are so much more unhappy in their lives than ordinary men, to which must be added (at least among reflective geniuses) the penetration of most illusions. This is in accordance with the result of the foregoing examination, which taught us that the individual is so much the better off the more he is entangled in the illusion created by the instinctive impulse ("He that increaseth knowledge increaseth sorrow."—Ecclesiastes); for, in the first place, it has corrupted his judgment on the true proportion of past pleasure and pain, and in consequence he feels his misery less, and is not so oppressed by this feeling of misery; and, secondly, there remains to him in every direction the happiness of hope, whose partial frustration is quickly followed by new hopes, whether in the same or in another direction. He lives, therefore, always in dreamland, and in all present misery consoles himself with the illusion which promises him a golden future. (Käthchen von Heilbronn or Mr. Micawber in "David Copperfield" will readily occur to the reader.)

This felicity of the illusive reverie is especially characteristic of youth. Every youth, every girl, regards him or her self more or less as the hero or the heroine of a romance, and they console themselves for their present misfortunes or reverses, as in their novel-reading, with the prospect of the radiant conclusion; only with the difference that it never comes, and that they forget that behind the seemingly brilliant conclusion of the story lurks the common drudgery of life.

Of the rich assortment of youthful hopes, however, with advancing age and experience one after the other is seen to be illusory, and the man is relatively far poorer in illusions than the youth, ambition and the desire of property usually alone remaining.

These, too, also are perceived to be illusory by the old

man, unless ambition ossifies into childish vanity, the acquisitive instinct into avarice; and among sensible old men one finds, in fact, no more illusions having reference to the life of the individual, save, of course, the instinctive love of children and grandchildren.

The result of individual life is, then, that all is surrendered; that, as the Preacher sees, "All is vanity," i.e., illusory, worthless.

In the life of humanity this first stage of the illusion and its abandonment is represented by the ancient (Jewish-Greek-Roman) world. In the earlier Asiatic empires the tendencies of life and thought afterwards distinguished are all too intermingled. Mosaism most openly declares the faith in the attainability of individual terrestrial felicity, both in its promises and also in its general optimistic world-view without a transcendent background. In Greece the same tendency is exhibited in a nobler fashion in the enjoyment of art and science, and in a certain æsthetic conception of life. Hellenism also rejoices in an endeavour after a refined individual earthly happiness, since the πολιτεία is merely to afford maintenance and protection. Think of the utterance of the dead Achilles in the "Odyssey" (xi. 488–491)—

"Speak not lightly to me of death, O famous Odysseus;
Rather would I as a serf act as the serf of another,
A man of little possessions, with scanty means of subsistence,
Than rule as a ghostly monarch the ghosts of all the departed."

The well-known pessimistic chorus in the masterpiece of the aged Sophocles must not be taken as an expression of Hellenic feeling; it and other similar passages, as well as the significant melancholy found in masterpieces of Hellenic art in the midst of all the seeming satisfaction, prove that even at that time gifted individuals were able to peer through the illusions of life, to which the spirit of their own age surrendered itself without the faintest critical reflection.

The Roman republic certainly adds a new element:

the endeavour after happiness in and through the enhancement of the splendour and power of the strict Fatherland. After this effort at the attainment of universal empire proves illusory in respect of felicity, a degraded form of Greek speculation is adopted by Rome in the shape of the shallowest Epicureanism, and the ancient world lingers out its day in the utmost disgust of life.

Second Stage of the Illusion.

Happiness is conceived attainable by the individual in a transcendent life after death.

On this extreme weariness of life of the ancient world falls the kindling ray of the Christian Idea. The founder of Christianity completely adopts the contempt and weariness of earthly life, and draws from them their last and most repulsive consequences (comp. F. A. Müller, "Briefe über die Christliche Religion," Stuttgart, Kötzle, 1870).

Only to those who feel the misery of existence, sinners, outcasts (Samaritans and publicans), oppressed (slaves and women), poor, sick, and suffering, but not to those who feel themselves well off and comfortable in the earthly life, does he bring his gospel (Matt. xi. 5; Luke vi. 20–23; Matt. xix. 23–24; Matt. xi. 28). He rejects everything natural, not even laws of nature does he acknowledge (Matt. xvii. 20); he speaks slightingly of the ties of family (Matt. x. 35–37; Matt. xix. 29; Matt. xi. 47–50); he requires sexual continence (Matt. xix. 11–12); he condemns the world and its goods (Luke xii. 15; Matt. vi. 25–34; 1 John i. 15–16; Luke xvi. 15); declares it to be impossible simultaneously to attain earthly and heavenly bliss (Matt. vi. 19–21, and 24; John xii. 25; Matt. xix. 23–24), and demands, therefore, voluntary poverty (Matt. xix. 21–22; Luke xii. 33; Matt. vi. 25, and 31–34). Nowhere and in no respect does Christ prescribe asceticism, although voluntary restraint and the fewest possible wants, whence it is clear that he

assumes pain to increase with the number of wants and desires. He regards his age as so corrupt (Matt. xxiii. 27; Matt. xvi. 2–3) that the day of judgment must be near at hand (Matt. xxiv. 33–34), and the quintessence of his teaching is, patiently to bear this life of affliction in the terrestrial vale of tears as one's cross (Matt. x. 38), and to follow him in worthy preparation and cheerful hope of the blessedness of a future eternal life (Matt. x. 38–39). "These things I have spoken unto you, that in *me* ye might have *peace. In the world ye shall have tribulation: but be of good cheer; I have overcome the world*" (John xvi. 33).

This is the fundamental difference between the older Judaism and Christianity; the promises of the former have reference to the life here ("that it may be well with thee, and thou mayest live long on the earth"), those of the latter to the life beyond; and this earthly vale of tears has only a meaning as preparation and trial for the life hereafter (1 Peter i. 5–7); in itself, however, of no value whatever; on the contrary, the earthly life is composed of tribulation (John xvi. 33) and daily torment and evil (Matt. vi. 34: "Sufficient unto the day is the evil thereof"). Love makes this limbo more bearable, and is also the test of worthiness (Rom. xiii. 8–10; Matt. xxii. 37–39); faith and hope of the hereafter enable us to "overcome the world" or "to be delivered from the world," *i.e.*, from evil and sin.

The redemption of the world through Christ comes to pass, therefore, through this, that all men follow him in despising the world, and in living in faith and hope of a hereafter; but not through his death with the subsequent Judaical conception of the same as a purifying sin-offering, of which Christ himself assuredly would not have heard for a moment.

This is the historical and only important content of the doctrine preached by Jesus, to which, at the most, the rejection of an outward ritual and all priestly media-

tion in worship is to be added. Christian virtue also follows on its negative side from contempt of the flesh, whence all sin arises, on its positive side from the supreme commandment of love.

All that relates to earthly relations themselves is so unimportant and indifferent to him, that he either fits himself to the existing order with smiling contempt (Matt. xxii. 21; Matt. xvii. 24–27), or only gently hints at what is desirable, *e.g.*, self-government and independent jurisdiction (Matt. xviii. 15–17) of the communistic society. All other ideas, which we are accustomed to regard as Christian, were already current in the ancient world, but outside India the combination of contempt of the world and intense belief in an eternal transcendent blessedness was new. It was the peculiar world-redeeming Idea which saved the dying antiquity from its despair and world-weariness, in that it condemned the flesh and enthroned the spirit, conceived the natural world as the kingdom of the devil (John xiv. 30, and xvii. 9), and only this transcendent world of the spirit as the kingdom of God (1 John iv. 4, and v. 19), which latter certainly, according to Christ himself, could *even here* have its commencement in the hearts of believers; as Paul (Rom. viii. 24) very truly says, "For we are saved by *hope.*"

Contempt for the world combined with a transcendent life of the spirit had, indeed, in India already found a place in the esoteric doctrine of Buddhism; had, however, in the first place, not become known to the Western mind; in the second place, in India itself was only within the reach of a narrow circle of celibate adepts; and, thirdly, had soon been submerged in exoteric frenzy, so that the thought only attained realisation in the eccentric phenomena of hermits and penitents; fourthly, it did not originally spring up in a soil so fertile by reason of previous corruption; fifthly, it did not possess in the same degree the cosmopolitan side, the idea of the universal human brotherhood and the divine fatherhood

(Matt. xxiii. 8–9); sixthly and lastly, what is most important, it knows indeed an eternal transcendent blessedness for those finally released from terrestrial existence, but no *individual* immortality. Christianity, however, which promises a resurrection (of the flesh), and, accordingly, an *individual* everlasting life in the transcendent kingdom of God, thereby appeals more directly to human egoism, and consequently inspires the believer with a far more felicific hope. In this satisfying hope the Christian world has hitherto lived, and still for the most part continues to live.

We have already seen above, under the head of Religious Edification, that the pleasure arising from religious hope and devotion is also not without pain, partly resulting from the rebellion of the instinctive impulses against their unnatural suppression, partly consisting in the doubts concerning one's own worthiness and the procuring of the divine favour, and in the fear of the last judgment. Add to that the required repentance and contrition for one's own sins and sinfulness, even when one is, properly speaking, not conscious of wrong-doing. Whether the religious pain or pleasure predominates will essentially depend on the character; frequently, however, with the genuine believer hope will predominate. Pity only that this hope, too, like all others, rests on an illusion. I abstain here from a searching examination of the doctrine of the individual perpetual existence of the soul, and simply refer to Chaps. ii. and vii., Sect. C., according to which the individuality both of the organised body and of consciousness is only a *phenomenon*, that disappears with death, and only the substance, the One Unconscious, remains, which evoked this phenomenon partly by its own individuation as atoms, partly by its direct action on the atomic groups combined to form a body.

I may remark that the cosmic theory of Jesus was far too naïve and childish to consider possible the separation of body and soul, and the isolated continuance of the latter.

Hence also the adoption of "the resurrection of the flesh" into the third article of the Confession of Faith is quite in the sense of Christ. Passages certainly are to be found in John and Paul which throw light on the nature of the eternal life little in harmony with the promises of Christ, but their consequences were never drawn. Rev. x. 5, 6: "And the angel . . . sware by him that liveth for ever and ever . . . *that there should be time no longer.*" 1 Cor. xiii. 8: "Charity never faileth; but whether there be prophecies, they shall fail; whether there be tongues, they shall cease; *whether there be knowledge, it shall vanish away.*"

The latter passage announces the cessation of all *consciousness*, the former the ceasing of all *change* in that condition; both abolish individuality, or at least its significance. That in all the important systems of modern philosophy (apart from Kant's inconsequence and Schelling's later declension) there is no room for an individual immortality no one save the self-deluded can for a moment doubt. I shall, however, although very rapidly, summarise the opinions of certain ancient and modern thinkers.

In Plato's "Timæus" (ed. Steph., iii. p. 69) we read: "And of the divine (existences) he himself becomes the fashioner. The generation of mortals, however, he intrusted to his own children; and they imitating, having received the immortal foundation of the soul, surrounded it with a mortal body, and gave it as vehicle the whole body, and built *in it another kind of soul—the mortal*, receptive of fearful and inevitable feelings, first pleasure, the greatest bait of evil; then pains, warding off the good, and again boldness and fear, senseless counsellors; then anger, slow to cease, and seductive hope; and having mingled these with irrational perception and love ready to attempt all things, compounded by necessity the race of mortals."

From this, together with Plato's theory of Knowledge,

it follows that he placed the immortal soul exclusively in truthful cognition, *i.e.*, the vision of the Platonic IDEAS, which in its very nature admits no individual distinctions, although this consequence may never have been clear to Plato himself.

Aristotle occupies the same point of view. De An., i. 4, 408, a, 24 ff., he denies to the *νοῦς ποιητικός*, as he calls the immortal part of the soul, not only love and hate, but also memory and discursive thinking (*διανοεῖσθαι*); from other passages we gather that the *νοῦς ποιητικός* (or active understanding) is the eternal, universal, unchangeable, and inaccessible to all external impressions in man; it is accordingly altogether incomprehensible how it could be individual.

Spinoza, who certainly proceeds from other presuppositions, comes to the same result. "The human mind cannot be absolutely annihilated with the body, but there remains something of it which is *eternal*" (Eth., part v. prop. 23). As is clear from the proof of this proposition, by "eternal" the "enduring" is by no means to be understood, but only the being logically contained in the IDEA of the Absolute Substance (part v. prop. 22). "Our mind can only be called enduring and its existence be defined by a certain time, so far as it includes *the actual existence of the body*" (*ibid.*) If we now ask *which* part of the mind is to be affirmed eternal, *i.e.*, contained as necessary moment in the eternal IDEA of God, we are able so far to determine it that it can only be the purely active, not the passive mind affected by the body. To the latter part belong, however, all the passions and emotions, sense-perception, ideation, and memory; they are all accordingly dependent on the existence of the body, and cannot endure after its death (part v. prop. 34, 21). Even love belongs to the transitory perturbations of the soul, and must perish with the body; only the intellectual love springing from intellectual intuition (part v. prop. 33) with which God loves himself calmly and dispassion-

ately (prop. 17, corollary), only this purely contemplative absorption in the logical necessity of the Absolute is eternal (prop. 34, corollary). Strictly speaking, then, there is nothing eternal in mind but the third species of intellectual perception (prop. 33, proof; comp. above, vol. i. p. 22, obs.) This, however, and the consciousness of himself, of God, and of the eternal necessity of things springing from it along with the sequent mental repose, only the wise man will really possess, whilst the mind of the uncultivated is absorbed in passive sensation. As soon, therefore, as "the uncultivated ceases to feel, he also ceases to be" (prop. 42, obs.); so that, properly speaking, we can only speak of an eternal part of the mind in the cultured and wise.[1] If we ask, finally, how we are to conceive the eternal being of the active part of the spirit, the required answer is given in part ii. prop. 8, to wit, since the mind is the idea of the body, the mind, before and after the actual existence of the body, is the idea of a non-existent thing. Of such ideas, however, the proposition mentioned affirms that they must be contained in the infinite idea of God, as the formal essences of individual things or modes in God's attributes, which is elucidated in the observation by the manner in which the infinitely numerous ideas of describable rectangles are contained in the idea of a given circle, although they are not actually drawn therein. We should, however, say that only the formal possibility of these rectangles is given, and accordingly that in the eternal absolute idea the idea of a particular individual mind is only potentially contained, which implicit potentiality, however, is only explicated realiter at the moment when the individual mind

[1] As is well known, Goethe likewise inclined to this view of a reservation of immortality for the aristocracy of mind; and, in fact, if one insists on maintaining the immortality of the intellectually eminent, and at the same time does not admit the immortality of the souls of infusoria or the soul of the first fecundated human ovum, there always lies more sense in drawing the line for the immortals at the intellectual aristocracy of humanity than in arbitrarily placing it between Bushman and orang-outang, or between the seventh and ninth month of the embryonic life.

attains to actual existence in an organism. With this interpretation there is just as little to be said against Spinoza's eternity of individual minds as (say) against the eternity of any particular mathematical truth.

In Leibniz this at least is deserving of notice, that he is unable to assign as the individual limitation of the monads anything but the body, and therefore ventures to assert the immortality of the soul only with a simultaneous immortality of a body peculiar to it and inalienable. At the present stage of physical science the statement of the latter hypothesis is its own criticism.

Schelling expresses himself in like manner as Spinoza (i. 6, 60–61): "The eternal element of the soul is not eternal on account of the absence of a beginning or end to its duration, but it has altogether no relation to time. It can therefore also *not be called immortal* in the sense in which this concept includes that of an *individual* perpetuity. . . . It is therefore a mistaking of the genuine spirit of philosophy, to place the immortality above the eternity of the soul and its being in the IDEA, and, as appears to us, a distinct *misunderstanding* to conceive the soul at death denuded of sensibility, and yet to possess an endless *individual* existence."—Fichte and Hegel entirely adopt this view, and Schopenhauer goes still farther, in that with him only the will, never knowledge, is eternal.

In the monistic systems, be they Naturalism, Pantheism, or Personal Pantheism, there can be no talk of individual immortality without the grossest inconsistency, and just as little in the pluralistic Materialism; it remains a matter of discussion, therefore, only in the system of a psychical Individualism or in Theism proper. As for the former, I know of no elaborated system of psychical Individualism that does not lead to the more or less open confession of impotency to stand by Pluralism as a metaphysical ultimate. Leibniz concludes with the all-comprehending central monad, which, in truth, absorbs the whole Monadology; Herbart with the double

entry of the God-Creator of faith by the side of the known absolute positions of the many simple Reals. We have, then, strictly only to do with Theism, if also with a shame-faced Theism. Even in Theism, however, as we saw before (vol. ii. pp. 266–269), the individual is guaranteed continued existence only as long (we will not say) as God does not issue his annihilating fiat, but God as constantly renews his conserving action. Now one might allege the abstract possibility that God should let the individual endure to the world's end, and even appeal to the analogy of the atoms, which, although also mere manifestations of divine will, doubtless severally possess an unbroken existence from the beginning to the end of the world. In opposition to this, however, we may refer to Chaps. vi. and xi. C., in which the concept of individuality is analysed, and the great difference between the simple will-act in the atom and the very compound individual we call man is pointed out. The atomic will can be constant because it is simple; the stream of will-acts of the Unconscious, which is directed upon a particular individual organism, cannot possibly have a longer duration than the object on which it is directed. If the organism has entered into dissolution and the organic individual has lost its existence; if, in consequence, the consciousness has ceased that was bound to this organism and had stored up its ideal treasures, and possessed the determining ground of its individual character, in the molecular arrangement of the cerebral molecules of the same, then is the fasciculus of actions of the Unconscious, which afforded this individual mind its metaphysical foundation, without an object, and thereby becomes impossible as continued *action*. The *power* to will is not thereby altered, but this is no longer *individual*, but resides in the universal and unique unconscious essence. Were there even a similar organism created on which the Unconscious should direct similar actions, it would still be *another* individual, not the same as the deceased, since continuity of existence would be wanting. Unwarranted

as would be the assertion that before the organic development of the ovum and the spermatozoon, whence a future man arises, the same man possessed an individual psychical antenatal life, no less unjustified would be the assumption that after the destruction of the organism the man might possess an individual psychical after-life. What is enduring is the substance that is manifested in this particular man, but this substance is not individual.

Thus, then, also, the hope of an individual duration of the soul turns out to be an *illusion*, and therewith the main nerve of the Christian promises is cut, the Christian Idea outgrown. The draft on the life hereafter, which is to compensate for the miseries of the life here, has only one fault: place and date of discharge are forged. *Egoism* finds this result *cheerless; to it* indeed immortality was a postulate of the heart; and with the observation that postulates of the heart can establish no metaphysical verities (as Jacobi and Schleiermacher fancy), *its* comfortable condition ceases. But the sterling soul that puts its trust in self-renunciation and love does *not* find this result cheerless. To the unselfish the guarantee of an endless self-affirmation appears not merely worthless, but disquieting and abhorrent, and all the attempts to demonstrate immortality as an emotional postulate on any other basis than that of the grossest self-love utterly fail (comp. my essay, "Ist der pessimistische Monismus trostlos?" in the "Ges. philosoph. Abhandlungen," No. iv.) Even the humblest form of the desire for immortality, the wish to live on in one's works, deeds, and achievements, is egoistic; for one may indeed rightly desire the continued production of good deeds and the continued influence of useful and admirable works, but the insertion of the dear self into this wish, the demand that it shall be just *my* deeds and works that shall bear fruit for the future of the world, is, if, humanly speaking, excusable, yet always an ethically unjustified *selfishness*, which becomes even *vanity* when it requires the grateful preservation of the

name and its memory among the men who derive a benefit from the deeds and works.

Since *all* longing for immortality is egoism, it would seem to be of small importance to all who have been "saved by hope" in the immortality dogma whether, after the destruction of the hope in *individual* immortality, Christianity, with its transcendent optimism as regards the truth of an eternal blessedness in general, in contrast to the originally purely negative Buddhism, is right or wrong; for he to whom immortality is a postulate of the heart is also always so far egoist as to say, "What is the greatest future blessedness *to me,* if *I* do not feel and enjoy it?"

But how stands it in general with that everlasting blessedness according to our premisses? The only Unconscious is all-knowing and all-wise, cannot therefore become wiser; it has, as Aristotle says, no memory, therefore can learn nothing from the experience which it gets (suppose) in the world. Consequently, when the world has once ceased to be, and the fleeting moment of *contrast* between the torment of willing and the peace of non-willing is past, it is precisely in the same condition as it was before the creation of the world; as blessed as it formerly was is it now again, neither more nor less: the world-process can never help it to a greater bliss than it possessed before, unless it should find it *in* the process itself. (This latter case we do not, however, consider here, for it would be only the secular life itself, whereas we are inquiring concerning the bliss of the ultra-mundane condition.) If, then, through terrestrial life we can make no addition to the felicity of that ante-mundane state, but after the close of the world-process merely relapse into that former condition, the question arises of what nature it was. It is clear that if there had been willing, there would also have been act, therefore process, and the Unconscious would not have been acosmic; the acosmic state could only be that of non-willing. But now we have seen (Chap. i. C.)

that until the world existed thought could only be urged by volition from non-existence into existence; for in itself thought had no impulse and no motive to emerge from non-being into being, therefore *before* the occurrence of volition there was also no actual thinking; consequently, before the origin of the world neither willing *nor* thinking, *i.e.*, *nothing actual at all*, nothing but the quiescent, inactive, self-enclosed *essence* without existence. As long as volition lasts, so long will the process and its phenomenon in consciousness, the cosmos, last; if, then, one day the world shall be no more, there will be no willing, consequently also no thinking more (since the unconscious thinking always only becomes so far actual as the interest of the will requires it), *i.e.*, it will again, in the same sense of the term as above, be *nothing*. This is also the state alluded to in the words of the Apostles, that there shall be no more time nor knowledge. As long, then, as the world exists is there cosmic process, and as much happiness or unhappiness as this includes; before the genesis and after the cessation of the world and the world-process is—actually—Nothing.

Where now is the promised bliss? *In* the world it may and can not be, and the *nothingness after* the world could at the best be relatively happier or unhappier than an earlier condition, but not a positive blessedness or unblessedness (comp. Aristot., Eth. N. i. 11, 1100, a, 13). Certainly if the world is the state of the unblessedness of the creative Being of the world, *in comparison with that* nothingness will be blessedness; but unfortunately this contrast can only be drawn in the condition of existence, not in that of non-existence, since in the latter there is neither thought nor feeling—for either would be already actuality, which is excluded—the one would presuppose actual imagination, the other even actual reflection on a memory of the former intra-mundane state implying comparison with the present, and the participation of the will in this reflection, all which is simply impossible.

Thus thinks Buddhism with its "Nirvâṇa;" thus Schopenhauer; but not so Christianity. This is as little satisfied with such a reduction to the zero-point of sensation, to painlessness and absence of happiness, as the common egoistic understanding that claims the fulfilment of its instinctive striving after happiness as its natural right. Christianity does not indeed strictly allow a right to happiness, but it demands its renunciation only to enhance the value of the undeserved gift of grace of a happiness hereafter, and the individual Christian foregoes his pretended right, only because he is assured of the satisfaction of his claims by express covenant. Christianity must have a positive world-goal or renounce the principle that at bottom distinguishes it from Buddhism, *i.e.*, abdicate. As, however, no satisfactory explanation can make this practical postulate intelligible, every justification of the positive transcendent bliss that refuses to rest content with a confessedly unintelligible divine promise must issue in a more or less fantastic presentation of Nirvâṇa, which, of course, in the character of its phantasmagoria follows the direction of and changes with the culture of the time. The Christian theory of the world is simply incapable of rising to the complete resignation of happiness; even Christian asceticism is out-and-out selfish. Hence it is no wonder if we, who are still more or less entangled (I will not say, in the Christian faith, but) in the Christian philosophy, indignantly resent the complete renunciation of happiness. A prolonged historical discipline, and the discipline, moreover, of a non-Christian purely secular period, is needed to prepare mankind for this extreme demand. This period, however, we shall soon become acquainted with as the third stage of Illusion.

But now, if, on the one hand, the Christian hope of blessedness rests on an illusion, that necessarily disappears in the further course of the development of consciousness; if, on the other hand, the mission of the

gospel through Jesus, and its eager reception by the nations, in spite of Greek philosophy, that had long risen above this childish standpoint, can certainly only be understood as a direct intervention of the Unconscious in the genius of the founders and the popular instinct of the rage for conversion, the question arises, *what* then was the object of this illusion? The answer is simply this, that this second stage is the necessary link between the first and the third, because through despair of the first stage of the illusion, *Egoism* is not yet so far broken as not to cling with both arms to the only egoistic hope still remaining to it. Not till this anchor too breaks, and the complete despair of attaining happiness for one's dear self has taken possession of the soul, not till then does it become receptive for the self-denying thought, to work *only* for the weal of future generations, to lose itself in the universal movement for the future good of the whole.

Rome had indeed possessed and practised this self-renunciation, but only for the sake of increasing the power of a single branch of the human family; it had, therefore, as it were, expanded individual egoism into a race-egoism, and in this spirit chased the phantoms of boundless ambition and lust of power; but now the question becomes the expansion of the egoistic into a *cosmic* consciousness and endeavour, of self-*seeking personal* feeling into self-*denying impersonal* feeling, into the consciousness that the individual and the nation are nothing but a wheel or a spring in the vast world-machine, and have no other task than to do their duty as such, to further the movement of the whole, which alone is of consequence.

For such a thought, for such a self-renunciation, the ancient world was of course not ripe, and there was an external secondary reason, as it were, for the interim existence of Christianity in the circumstance that so much technical progress had to be made before the possible opening of a world-communication, and that the future elements of telluric social life, the nationalities, had first

to be created. *Apart* from all this, there is exhibited, however, a decided *advance* from the first to the second stage of the illusion, namely, in the acquired conviction that happiness is ***not*** to be found in the present phase of the evolution, just as in the transition from the second to the third stage the advance consists in the attained perception, that the way to redemption from the misery of the present, in the first place, is ***not*** to be sought outside the *world-process*, but lies ***in the world-process itself;*** that thus the future redemption of the world is not to be found in ***abstention from life***, but in ***devotion to life;*** that, however, again this devotion to life, which for its own sake would be an absurdity, has only a meaning for the sake of the future of the process of the whole.

This passage from the second to the third stage is certainly with human weakness hardly otherwise to be conceived than through a partial mistaking of the latter truth, *i.e.*, than through a partial relapse into the first stage of the illusion; for how is man to attain to a sufficiently strong faith in a future happiness on earth if he regards the present state as miserable in every respect, and all attainable happiness in the life of the present as vain?

Accordingly we see with the principle of free investigation and criticism set up by the Reformation, although negatively, it is true, the commencement of the decomposition of the Christian dogma and the destruction of its promises; but at the same time we see appear, in place of the Christian "salvation in the hope of the hereafter," the regeneration of ancient art and science, the sudden growth of municipal wealth and commerce, and the progress of the practical arts, the universal expansion of the mental horizon; in a word, the ***reawakening love of the world.***

The gigantic progress in all directions after so long a stagnation kindled hope into still greater expectations, and there thus arose, as ever in the epochs of much-promising progress, a period of optimism, whose chief theoretical representative is Leibniz. (At the present moment, when

the formation of nationalities is nearing its end, there prevails a similar optimism in political affairs.) Only slowly and gradually can the power of an idea so great as the Christian be broken. This is especially interesting to observe in the most recent philosophy. Kant, growing dizzy at the unfathomable consequences of his principle, turns back and prescribes his soul as quickly as possible to the Christian God, solemnly reinstated by the practical categorical imperative; Hegel tries, by the juggle of a symbolic dialectic, to save, at any rate, some of the leading ideas of Christianity; Schelling, with a start, pauses at the very edge of the abyss, and meekly returns at the end of his system to the positive dogma of revelation, with a perfectly serious deduction of the three Persons of the Christian Trinity from the potentialities of being.

There is only one who completely and in all respects breaks with Christianity, and denies it all significance for the future—Schopenhauer—to be sure only to relapse into Buddhist asceticism, and without being able to rise to the thought of the possibility of a positive principle for the historical future, without the trace of an understanding and a love for the great endeavours of our time, which are abundantly represented in all other recent philosophers. Day by day secular aims palpably gain in power, extent, and interest; Antichrist is evidently advancing more and more, and soon Christianity will only be a shadow of its medieval greatness—will again be, what it exclusively was at its origin, the last consolation of the poor and wretched.

THIRD STAGE OF THE ILLUSION.

Happiness relegated to the future of the world.

Characteristic of this stage is the idea of immanent development, its application to the world as a whole, and the belief in a cosmic evolution. In ancient philosophy, with the exception of Aristotle, we can find no trace of this, but

even in Aristotle the application of the conception is substantially limited to the natural evolution of the individual, and on the mental side, at any rate, exerted no epoch-making influence on contemporaries or posterity.

Rome recognised a development only as development of the power of Rome. To the inherently stationary and stagnant Judaism the idea of development is so strange and repugnant, that even a Mendelssohn could maintain and defend against a Lessing the impossibility of progress. Catholic Christianity is likewise self-complete and perfect; it strives only after *an extension* of the kingdom of God, not after the enriching of its substance; the evolution of dogma in the first centuries takes place against its will, as it were, simply from the endeavour to attain a fixed form. The Reformers also had by no means the intention of carrying the development of Christianity farther, but only of purifying it from abuses that had crept in, and of restoring it to its original form.

Even Spinoza's rigid necessity, whose soulless and aimless character causes the ever-varying forms of existence to appear only as an indifferent, I might almost say, capricious and fortuitous sport, has no place for the notion of evolution; it is Leibniz who first discovers it, as it were, afresh, but also immediately works it out in all its significance and varied application, and in this sense may, to a certain extent, be regarded as the positive apostle of the modern world.

Lessing makes a magnificent use of the same in his "Education of the Human Race;" the works of Schiller are penetrated by it; Herder gives it expression in his "Ideas on the Philosophy of the History of Mankind," and Kant in several essays on the Philosophy of History, animated by the genuine philosophic spirit (Werke, Bd. vii., Nos. xii., xv., xix.) Most full and profound is this thought in Hegel, for whom indeed the whole world is nothing but a self-realising of the IDEA (cp. Ges. philos. Abhandl., No. ii.: "Ueber die nothwendige Umbildung der Hegel'schen Philosophie aus ihrem Grundprincip heraus").

That the whole cosmic mechanism is one great process of development emerges ever more distinctly as result of modern positive science. Astronomy no longer limits itself merely to the genesis of the planetary system; by the help of spectrum analysis it reaches farther into the cosmos, in order, by a comparison of the present states of remote suns and nebulæ, to comprehend the same as different stages of an evolution in which one part has advanced more quickly, another more slowly, but whose sum can only be conceived as a collective cosmic evolution. Photometry and spectrum analysis combined seek to ascertain the continuation of the same in the formation of the several planets; and chemistry and mineralogy unite to determine more precisely the phase of evolution of our planet before that period of refrigeration, whose gradual progress to the present time is told in the stony memorials of geology, in hieroglyphics that are being continually deciphered. Biology interprets to us from the petrified remains of past ages the history of the vegetable and animal kingdoms (cp. C. Chap. x.); and archæology, supported by comparative philology and anthropology, unveils to us the pre-historical period of development of the human race, whose magnificent tableau of advancing civilisation is displayed in history, revealing at the same time glimpses of the future (cp. Chap. x. 13). What the several sciences offer piecemeal Philosophy has to comprehend with all-embracing glance, and to recognise as the development of the world-whole providentially guided by the all-wisdom of the Unconscious according to pre-determined plan to a beneficent goal.

In the case of the individual it is not difficult to convince one's self of the fact of an evolution One sees it indeed on all hands every day. The more difficult, however, is it so to assimilate the thought of the development of a whole consisting of many individuals as to gain for it an *ultra*-egoistic *interest;* for from nothing is it more difficult to free ourselves than from the instinct of egoism.

Extremely instructive in this reference is "Der Einzige und sein Eigenthum," by Max Stirner, a book that nobody interested in practical philosophy should leave unread. This book subjects all ideals having an influence on practice to a destructive criticism, and shows them to be idols that only possess power over the Ego so far as the latter concedes such to them in its self-mistaking weakness. It cleverly and piquantly demolishes with forcible reasons the ideal aims of political, social, and humanitarian Liberalism; and shows how the Ego alone can be the smiling heir of all these ideals thus reduced to impotent nothings. If these considerations only had the purpose of confirming the theoretical position that I can as little step out of the frame of my self-hood as out of my skin, nothing need be added; but as Stirner professes to have found in the Idea of the Ego the absolute standpoint for action, he either falls into the same error that he had combated in the case of the other ideals, such as Honour, Freedom, Right, &c., and places himself at the mercy of another enthralling idea, whose absolute sovereignty he recognises, not however for this or that reason, but blindly and instinctively, or he conceives the Ego not as idea but as reality, and with no other result than the perfectly empty and meaningless tautology that I can will only my own will, think only my own thoughts, and that only my own thoughts can become motives of my willing—a fact as undeniable by his opponents as by himself. If, however, and only in that case has his conclusions any sense, he means that we ought to acknowledge the IDEA of the Ego as the only governing one, and to admit all other ideals only so far as they have a value for the former, he should first have examined the idea of the Ego. He would then before all have found that, as all the other ideals are the cues of instincts in pursuit of special ends, so the Ego is the cue of a universal instinct, egoism, that is related to the special instincts somewhat as a season to a day ticket, of which many special instincts

are only derivatives in particular cases, and with which, therefore, we can get along tolerably well after all other instincts have been banished, which even, on the contrary is never entirely to be dispensed with as long as we live.

Thus it is certainly more pardonable to accord an unconditional sovereignty to this instinct than to any other; but although in the abstract the error is the same in the two cases, the consequences are far worse in the exclusive homage paid to egoism. Other instincts, namely, if they are only sufficiently strong, can frequently be pacified, although commonly only with sacrifice of happiness on the whole, which makes them unprofitable; but egoism is, according to our former inquiries, never to be satisfied, because it always procures an excess of pain.

This perception, that from the point of view of the ego or the individual the denial of the will or forsaking of the world and renunciation of life is the *only rational course,* Stirner entirely misses. It is, however, an infallible specific for an over-balanced egoism. Whoever has once realised the preponderating pain that every individual must endure, with or without knowledge, in his life, will soon contemn and scorn the standpoint of the self-preserving and would-be enjoying—in a word, self-*affirming* ego. He who has come to hold lightly his egoism and his ego will hardly insist upon the same as the absolute pivot on which everything must turn, will rate personal sacrifice less highly than usual, will less reluctantly accept the result of an investigation which exhibits the Ego as a mere *phenomenon* of a Being that for all individuals is one and *the same.*

Contempt of the world and life is the easiest path to self-denial; *only by this path* has a morality of self-denial, like the Christian and Buddhist, been historically possible. In these fruits which it bears for facilitating the infinitely difficult self-renunciation lies the immense and hardly to be sufficiently estimated *ethical value of Pessimism.*

But lastly, had Stirner approached the direct philoso-

phical investigation of the Idea of the Ego, he would have seen that this idea is just as unsubstantial and brain-created a phantom (cp. "Das Ding an Sich," sect. iii, "Das transcendentale Subject"), as, for instance, the Idea of honour or of right, and that the only being which answers to the idea of the inner cause of my activity is something *non-individual*, the Only Unconscious, which therefore answers just as well to Peter's idea of his ego as Paul's idea of his ego. On this deepest of all bases rests only the esoteric ethics of Buddhism, *not* the Christian ethics. If one has firmly and thoughtfully made this cognition his own, that *one and the same Being* feels my and thy pain, my and thy pleasure, only accidentally through the intervention of different brains, then is the exclusive egoism *radically broken*, that is only *shaken*, though deeply shaken, by contempt of the world and of life; then is the standpoint of Stirner finally overcome, to which one must at some time have entirely given adhesion in order to feel the greatness of the advance; then first is Egoism sublated as a moment in the consciousness of forming a link in the world-process, in which it finds its necessary and relatively, *i.e.*, to a certain degree, authorised place.

There occurs, namely at the end of each of the preceding stages of the illusion, and before the discovery of the next, the voluntary surrender of individual existence—*suicide*, as a necessary consequence. Both the life-weary heathen, and the Christian, despairing at once of the world and his faith, must in consistency do away with themselves; or if, like Schopenhauer, they believe themselves unable to attain by this means the end of the abolition of individual existence, they must at any rate divert their will from life to quietism and continence, or even asceticism. It is the height of self-deception to see in this saving of the dear Ego from the discomfort of existence anything else than the grossest selfism, than a highly refined Epicureanism, that has only taken a direction contrary to instinct through a view of life opposed to instinct

In all Quietism, whether with brutish inertness it is content merely to eat and drink, or loses itself in idyllic love of Nature, or in reverie natural or artificially induced (by narcotics) passively revels in the images of a luxuriant fancy, or surrounded by the refinements of a luxurious life, languidly drives away ennui with the choicest morsels of the arts and sciences—in all this Quietism the Epicurean trait is unmistakable, the inordinate desire to pass life in the manner most agreeable to the individual constitution, with a minimum of effort and displeasure, unconcerned about the thereby neglected duties to fellow-men and society. But even asceticism, which is apparently the counterpart of Egoism, is also always egoistic, even when it does not, like the Christian, hope for reward in an individual immortality, but merely hopes, by the temporary assumption of a certain pain, to attain the shortening of the evil of life and individual deliverance from all continuation of life after death (new birth, &c.) In the suicide and in the ascetic the self-denial is as little deserving of admiration as in the sick person who, to escape the prospect of a perpetual toothache, reasonably prefers the painful drawing of the tooth. In both cases there is only well-calculated egoism without any ethical value ; rather an egoism that in all such situations of life is *immoral*, save when the possibility of fulfilling one's duties to one's relatives and society is entirely cut off.

It is otherwise when interest for the development of the *whole* takes deep root in the heart, and the individual feels himself a member of the whole—a member filling a more or less valuable but never quite useless place in the general evolution. Then will it be requisite, for the sake of filling this place, to devote oneself with genuine joy in self-sacrifice to the life which, from the point of view of the Ego, was rejected not only as useless good, but as sure torment, because the suicide of a still capable individual not only saves the whole no pain, but even increases its torment, lengthening it out by the necessity,

needing considerable time, of procuring a substitute for the amputated limb. Then there further results the obvious demand to fill up the life preserved out of self-denial for the sake of the whole in a manner subserving no longer individual comfort, but the welfare of the whole, which is not to be accomplished by passive receptivity, not by indolent repose and the timid avoidance of contact with the struggle of existence, but by active production, by untiring action, by self-denying plunging into the vortex of life, and participation in the common economic and mental work of civilisation. That alone would render Quietism a deadly sin, that its more general extension would jeopardise and convert in a short time into continually increasing retrogression all the achievements of civilisation, which mankind has conquered with such difficulty in the thousands of years. History teaches however, how boundless is the wretchedness of a people retrograding in civilisation, nay, how hardly even the mere pause of civilisation, impeded progress, presses upon a people. For as the life of the individual organism is a sum of continual acts of the *vis medicatrix*, so, too, is the life of the political and social organism only possible as a continual strain of all available force for the warding off of the disturbing and injurious influences constantly lying on the watch on all sides for points of attack.

Thus, then, the *instinct* of egoism, or instinct of individual life, is to a certain extent reinstated by *consciousness*, but no longer as absolute or sovereign power, but with the extent resulting from its *aim for the whole*, and *limited* by the recognition and respect for the striving of other individuals likewise necessary for the process.—As Egoism in general, so also those instincts are rehabilitated by consciousness which, like compassion, sentiment of equity, have a value for the whole, or, as love and honour, a value for the future; they are now voluntarily adopted with the consciousness of personal *sacrifice* for the sake of the whole and of progress. This personal sacrifice, made

for life by the very devotion to it, finds then its *reward* in the *hope* of the future of the evolution, of the growing improvement of the circumstances of life, and the *felicity* beckoning the creative Being of the world, whose life is also mine.

This hope of a future positive happiness of humanity, and the *co-operation for its sake* in the process of the whole, forms the *third stage of the illusion*, whose examination is now our task. I trust and believe that most of those readers who have thus far followed the discussion with approval will not part company with me at this point. They can and must not, if they would not cease to be the children of their age, which is itself at the beginning of the third stage of the illusion, and hopefully hails and eagerly rushes to fulfil the promises of the golden future. Providence takes care that the anticipations of the silent thinker do not disarrange the course of history by prematurely gaining too many adherents. The only apparently related contemporary political and social pessimism of certain governments in the condition of youthful ferment or decay is a product of passing constellations destined to be overcome; it will and must pass over into political and social optimism, and has nothing to do with my metaphysical pessimism, which does not exclude, but includes, the political, social, or other optimism.——

When we were occupied with the criticism of the first stage of the illusion, it was not possible to avoid occasional glimpses into the future shaping of the world; nay, we may go so far as to assert that the attentive reader must have already found in that criticism of the first stage the criticism of the third.

To save repetition, I therefore beg that the *resumé* (No. 13) of the critique of the first stage may be re-read in this sense, and the reader will be convinced of the truth of my assertion that those results contain far *more* than was then concluded from them for the refutation of

the first stage of the illusion. Thus, *e.g.*, the proof of the proposition that the pain of non-satisfaction is always and fully felt, but the pleasure of satisfaction only under favourable circumstances, and, with considerable deductions, holds good not merely for the present, but *quite universally*.

However great the progress of mankind, it will never get rid of, or even only diminish, the greatest of sufferings—sickness, age, dependence on the will and power of others, want, and discontent. However many the remedies found against diseases, diseases, especially the tormenting slighter chronic ills, always increase in quicker progression than medical science. Cheerful youth will always form only a fraction of mankind, and the other part be composed of morose age. The hunger due to the indefinite increase of the human race will always be the portion of a large stratum of the population, which has more hunger than it can satisfy, which, by reason of deficient nutriment, shows a long bill of mortality; in short, which continually succumbs to a considerable percentage in the bitter struggle with want (comp. ii. 23, iii. 28–30). The most contented peoples are the rude peoples living in a state of nature, and the uneducated classes of civilised peoples; with the increasing cultivation of the people grows, as experience shows, its discontent.

That stratum of the population living on the borders of hunger felt formerly, and in part now feels, its misery only as long as the stomach gnawed; but the farther the world gets the more threatening becomes the spectre of the poverty of the masses, the more fearful does the whole consciousness of their wretchedness take possession of those wretched ones. The social question of the present day rests in the last resort upon a heightened consciousness of the working classes of the wretchedness of their situation, whilst actually this situation is truly golden in comparison with that of two hundred years ago, when nothing was known of a social question.

Immorality, if one measures by the standard of the disposition, has not grown less since the establishment of a primitive human society to the present day, only the form in which the criminal character expresses itself is changed. Apart from variations of the ethical character of nations on the large scale, everywhere we see the same proportion of egoism and charity, and when the atrocities and barbarities of former times are pointed to, we should also not forget to take into account, on the one hand, the probity and honesty, the clear feeling of equity, and the reverence for consecrated custom of ancient peoples living in a state of nature, and, on the other, the growing deceit, falsehood, cunning, chicane, non-regardance of property and of the well-founded, but no longer understood, instinctive morality accompanying civilisation. (Cp. the descriptions and reflections of Wallace on the almost paradisaical purity of manners and singleness of heart of the Malays at the close of his book of travels, "The Malay Archipelago.") Theft, fraud, and forgery increase, despite the penalties annexed to them, more rapidly than the gross and serious crimes (such as robbery, murder, rape, &c.) decrease; the basest self-interest shamelessly rends asunder the most sacred bonds of the family and friendship wherever it comes into collision with them, and only the infallible execution of the punishments assigned by the state *and* society prevents the brutal cruelty of ruder times, which *immediately* breaks forth again and reveals human bestiality in all its hideousness, when the bonds of law and of order are loosened or rent, as in the Polish Revolution, the last year of the American Civil War, or the horrors of the Paris Commune in the spring of 1871. No; thus far the wickedness and the all-devouring selfishness of man has *not lessened;* it is only artificially *dammed in* by the dikes of the law and of civil society; knows, however, in place of the open overflow how to find a thousand secret paths by which it percolates the dams. The degree of the

immoral *disposition* has remained the same, but it has discarded the cloven foot and walks about in conventional costume; the thing and its consequences remain the same, the form alone becomes more elegant.

The time is at hand when theft and illegal fraud will be despised as vulgar and clumsy by the more clever rogue, who knows how to keep his attacks on his neighbour's property within the letter of the law. I would, however, rather have run the occasional risk of being slain among the ancient Germans than in the modern civilised state to have to regard every man as a rogue and rascal until I have undeniable proof of his honesty. We may conclude by analogy that however refined the form in which immorality may hereafter appear, it will still remain equally immoral and equally a source of pain to those suffering the wrong. For although it may justly be objected that in the primitive and patriarchal forms of society morality rests on unconscious custom, and has declined with this foundation without, owing to the inadequateness of all religious and philosophical individual ethics, having found a substitute, but which the future will find in a social ethic elevating morality step by step through the replacement of unconscious moral tact by consciousness; if, further, one may also point to this, that the eruditio or "decrudescence" of feeling must necessarily afford, and, in part, has already afforded, in benevolent institutions, systems of poor-relief, care for the sick, the mentally imbecile, blind, deaf and dumb, criminals, societies for the protection of animals, &c., a broader field to the same extent of ethical foundation, yet such a real increase of the fund of morality, in part ameliorating the character through repeated practice, in part directly applying its lever to ethical feeling, is completely balanced by the sharpened sensibility for wrongs endured, although in the mildest and most refined form. If rude men cleave one another's skulls with the utmost nonchalance, yet the sensitive and cul-

tured feel very acutely even the slightest want of consideration, and how much more the fine edge of subtle malice! Accordingly, as regards the question concerning the total suffering called forth by immorality, growing morality and increasing sensibility to injuries are at least balanced; nay, with increasing culture the moral standard even rises, which now brands the same action as much more immoral than formerly, and with reference to this necessary raising of the standard, one may even say that the sum of immoral action *increases*, because the augmentation of the moral fund does not keep pace with the raising of the standard for the ethical judgment, but remains behind the latter. But even supposing morality actually to increase to an *ideal* state, yet it could scarcely reach the threshold of feeling, because the exclusion of all wrong is still not happiness, and positive morality only a palliative of helpless human want (cp. p. 60, and vol. ii. 365). The latter finds expression in the saying, that the endeavours of the future must aim at rendering superfluous, and obviating by a firm organisation of the most varied forms of social solidarity, private beneficence and voluntary works of charity.——

One phase of life, which, with a certain mental constitution, may doubtless afford positive happiness, piety, is, of course, at our third stage of the illusion a surmounted standpoint, at least its principal arteries, the immortality-dogma and prayer are ligatured. Were it not so, the third stage of the illusion would not be pure, but mixed with the second, which indeed may in reality be very common, but in our rational survey, where the points of view must be kept well apart, must not be assumed. But at all events, one will not be able to deny that with progressive civilisation the average decrease of the religious illusion more and more diminishes its importance of the same for our estimation, and the time is not far off when an educated person will no longer be capable of the enjoyment of religious edification in the previous sense,

but at the most will be able to fashion a sort of private religious cultus out of the consciousness of the mystical connection with the All-One.

The two other factors, to which we had accorded a positive excess of pleasure, Science and Art, will also alter their position in the future of the world. The more we look back, the more is scientific progress the work of a few eminent men of genius, whom the Unconscious creates as its organ, to accomplish what is not to be attained with the forces of the average conscious human understanding. The more we approach the present day, the more numerous become the scientific workers, the more co-operative their work. Whilst the geniuses of former times resembled magicians who cause an edifice to spring up out of nothing, the spiritual works of modern times may be compared to the construction of an industrious body of builders, in which each adds his stone to the great building, a larger or smaller, according to his strength. The method of the future will become more exclusively inductive, and the fundamental character of scientific work be not depth but breadth. Thus there will be ever less need of the men of genius, and therefore ever less wrought by the Unconscious. As society is levelled by the civilian's black coat, so also in spiritual reference we are steering more and more towards a level of respectable mediocrity. It follows from this that the pleasure in scientific production is becoming ever less, and the world is limited more and more to the receptive enjoyment of science. This, however, is only considerable where the wrestling and struggling after truth has been personally experienced, not, however, where truth is presented to one like a baked pasty. Then often the pleasure of knowing hardly balances the effort of acquiring, and the practical utility of the acquisition or ambition must yield the proper motives of learning.

A similar state of things takes place in Art, although this has a more favourable outlook than Science. In it,

too, the productive men of genius will become ever rarer the more humanity leaves behind it the spontaneous life of childhood and the transcendent ideals of its enthusiastic youth, and is careful for the comfortable furnishing of its earthly home, the more in manhood the social, economical, and practical scientific interests gain the upper hand. Art is then no longer what it was to the youth, the sublime beatific goddess; it is only a distraction enjoyed with half-attention as a refreshment from the toils of the day, an opiate for ennui, or an amusement after the seriousness of business. Hence an ever-extending dilettante superficiality, and a neglect of all earnest tendencies of art to be enjoyed only with strenuous application. The artistic *production* of the manhood of humanity estranged from the ideal naturally reflects the same facile dilettante superficiality, skilfully mastering the form and living on the treasures of the past, and no longer produces men of genius, because they are no longer needs of the time, because that would be to throw pearls before swine, or even because the age has advanced beyond the stage to which men of genius belonged to one more important. To protect myself from misunderstanding, I expressly observe that I do *not* by this characteristic intend to denote the present time, but a future, on whose threshold our century stands, and of which the present offers only a weak foretaste. Art will be on the whole to humanity in its manhood somewhat what the Berlin farce is to the Berlin stock-jobber of an evening. This view is certainly only to be proved by the analogy of the development of humanity with the life-periods of the individual, and by the confirmation which this analogy finds in the previous course of development and the already tolerably distinctly perceptible aims of the next period.——

As regards the practical instincts which depend on illusion, like love and honour, there are three cases: either men never lose them *at all*,—then the pain arising

from them always remains; or men *entirely* lose them,—then along with the pleasure they certainly also lose the pain, and have become relatively much happier, which means, however, nothing more than that life has become so much *poorer*, and has so much nearer approached the zero-point or level of sensation,—has, however, also become conscious of its poverty and worthlessness. One may somewhat compare both states with a miser who rejoices over the treasures in his chest, until one fine day he opens the chest and finds it empty; only in this image the torment really endured, even in the first state along with the illusion of happiness, is not expressed. The third possible, and at the same time most probable case, is that men only *partially* lose these instincts, that they indeed quite see through their illusory character, and in consequence somewhat diminish the force of the impulse by reason, but are never able completely to destroy it. This case contains the pains of both the others combined. For the miser who has seen quite well that his chests are empty now falls into the delusion of wishing to regard them, despite his clear and better rational insight, as still full, and is all the time rational enough to understand his aberration without being able to deliver himself from it. He has at the same time the rational consciousness of the poverty of his life, of the illusory nature of his pleasure and pain springing from these impulses, and of the great predominance of pain. He has therefore now also the full consciousness of the torments to which he is condemned, the rational endeavour to suppress these impulses, and the painful feeling of the impotence of his rational will over instinctive impulse. Wherefore Goethe says quite correctly, "Nature, as the sternest of tyrants, punishes that man who destroys illusion in himself and others" (vol. xl. p. 386), and yet can and will this destruction of the illusion not be spared humanity. Pitiless and cruel is this work of the destruction of illusion, like the rough pressure of the hand that wakes one

sweetly dreaming to the torment of reality. But the world must onwards; the goal cannot be approached in dreams, it must be wrestled for and conquered, and only through pain lies the path to redemption. The *individual* rightly sees the reconciliation of this difference *as regards himself* in the complete surrender of egoism, and the self-renouncing thought that the love and instinct to found a household is yet to the advantage of the *future*, in that they call into existence the new generation, and thus serve the purpose of progress; but it would be a manifest contradiction if a generation should always only exist *for the succeeding one*, whilst *each by itself* is wretched. This pointing ever forward awakes the involuntary thought that progress is not for the sake of progress, but for the sake of a goal beyond the progress. The like answer may be made to the objection that the illusive instincts, as honour, the acquisitive impulse, love, help *to further evolution*. This is certainly true, but it can lend those instincts no value as regards real happiness so long as we can attribute no endæmonological value to the enhancement of the evolution. It is forgotten in these replies that the process as such is *only the sum of its moments*.

Let us now cast a glance at the belauded progress of the world. Wherein does it consist? how are we made happy? Progress in *art* one would not be warranted in rating highly; although our modern works of art are richer in ideas, yet the artistic *form* was more perfect in antiquity, and the resuscitated Greeks would with *perfect truth* declare our works of art in all departments to be thoroughly *barbarous*. (Think of our romances and stage-plays, of our statues and exhibitions of pictures, of our architecture, and the monotonous temperament in music!) The more the ideal content of our works of art threatens to burst the confining form, the further are these works removed from the *pure* notion of art, that is rooted in absolute harmony of form and matter. Space unfortunately prevents my working out these suggestions in detail.

Scientific progress contributes in a purely theoretical

reference little or nothing to the happiness of the world, but in practical reference they stand in good stead political, social, moral and technical progress. The influence of science on moral progress I may regard as insignificant, as also in political and social respects it must not be rated too highly, since in these departments theory for the most part hobbles after instinctive practice. On the other hand, it is of incalculable importance in the progress of the *practical arts.* But what do these achieve for human happiness? Manifestly nothing but afford the possibility of social and political progress and increase the conveniences of life, and *perhaps* also superfluous luxury! Partly this takes place directly, partly by the facilitation and perfection of commercial communication. Factories, steamships, railways, and telegraphs have done nothing *positive* for the happiness of mankind; they have only diminished a part of the impediments and inconveniences by which man was previously confined and oppressed. If a more rational cultivation of the soil and a facilitated importation from less populated regions has placed a greater supply of food at the command of the civilised nations, this certainly has had the result that the *number* of the population of these civilised nations have in part very considerably increased; but is the *happiness* or the *misery* of the individual and the community thereby increased? Especially when we remember that with increasing population the number of the millions living on the verge of starvation likewise increases. The augmented food-supply of the earth, the augmented comfort and the augmented luxury taken together represent the augmented national wealth or terrestrial wealth. This latter, likewise, cannot be regarded as a growth of positive happiness. In the first place, it effects nothing but an increase of the population, and therefore of misery; secondly, its high appreciation depends on the illusion created by the instinctive acquisitive impulse; thirdly, its consequence is a diminution of pain, and an ap-

proximation to the zero-point of sensation that is never attainable. The only *positive* utility of the growth of opulence is that it *sets free for mental exertion energies* that before were absorbed in the struggle with want, and that it thereby *accelerates* the *progress of the world*. *This* result appertains, however, only to the process as such, by no means to the individuals or nations concerned in the process, who yet imagine that they are working *for themselves* in increasing their national wealth.

The last great advances of the world which remain to be considered are the *political* and *social*. Let us assume the most perfect State to be realised and the peoples of the earth to have solved their political problem in a complete manner. What then does one get by this political framework? A snail-shell without the snail, an empty form that waits its filling up. Mankind does not live in order to be governed, but it is governed in order to be able to *live* (in the highest sense of the term). All the well-known problems of the State are of a negative nature. They are *protection* against, *security* for, *defence* from, &c. Where the State fulfils positive objects (*e.g.*, instruction) it trespasses on the sphere of Society, which, in the immaturity of the latter, may occasionally become necessity. The most perfect state does, therefore, nothing but place man in a situation where he can begin to live without fear of unwarranted attacks, *i.e.*, to unfold his forces and capabilities in all directions, which do not infringe the rights of others. Thus the ideal of the State also simply places man at the threshold of his felicity.

With the *social* ideals it is not different. They show how to lighten to a certain extent the struggle with want for the necessaries of life through the principle of the solidarity of the community and other expedients. They teach how to alleviate as far as possible the torments and cares which one draws upon oneself through the satisfaction of the instincts of founding a household by the best possible arrangement of the family relations; to fulfil the duties of the

education of children at the least possible cost, &c.—The question is always only the mitigation of evils, not attainment of positive happiness. The sole apparent exception is the increase of the collective wealth resulting from co-operation, but this has been already dealt with above.

These, then, would be the main lines of the world's progress. So far as they rest on *realities*, they agree in lifting man more and more from the depths of his misery towards the level of sensation. Were the ideal goals attained, the zero or indifference point of feeling as regards these phases of life would be attained; but as ideals always remain ideals, and the progress of humanity may indeed approach, but never reach them, even in these directions the world will never attain the height of the zero-point, but always remain below it, pain being still in excess.

One may become clear with regard to the *endæmonological value* of the world's progress even without considering it in detail. One has only to reflect on the analogous case of the individual. He who comes into a better position in life will in passing from worse to better certainly feel pleasure. This pleasure, however, disappears with astonishing rapidity; the new and better circumstances are taken as matter of course, and the man does not feel himself a hair's-breadth the happier than in his former position. (The transition from better to worse worse produces a much more lasting pain.) It is just so with a nation, just so with humanity at large. Who feels himself better off now than thirty years ago because now there are railways and then there were none? And should the difference still be felt by older persons, assuredly not by those who have been born since the existence of railways. With the increased *means* nothing more has increased than *wishes* and *needs*, and in their train *discontent*. And even should mankind ever succeed in getting rid of the infectious diseases by preventive and eradicating measures—the hereditary by more rational sexual unions (contingent on a relaxation of the present unnatur-

ally limited and almost blind struggle for existence), the rest by the progress of hygiene and medicine; should it ever succeed in preparing aliment from inorganic substances in chemical laboratories, and in limiting multiplication without restraining the instinct of propagation in accordance with the available means of subsistence,—yet all this progress would offer nothing positive, but only remove or mitigate the worst, and in part most unnatural, evils of existing physical and social circumstances. But at the same time they would cause the question to become the more burning, What then to do with this life, with what substance of inner worth it is to *be filled?* what is to *compensate* for the bearing of the burden of life rendered placid by the simplest elementary considerations?

Whereas before the discomfort of existence, so far as it was felt, was referred to external evils and defects, and the attainment of a comfortable condition hoped for from the removal of the external evils most sensibly felt at the time, the error that lies in this projection of the cause of discomfort is the more perceived the more the palpable external ills of human life are removed by the world's progress; and in proportion as this escape from the pessimistic insight into the essential nature of the personal will is cut off, in the same degree grows the perception that pain is *immanent* to will; that the wretchedness of existence is founded in existence itself, and is dependent on external circumstances more in appearance than in reality. Consequently every approach to the ideal of the best life attainable on earth must make the question as to the absolute value of this life only an *ever more burning one*, since both the continually increasing perception of the illusory nature of most positive pleasures, as the ever clearer and clearer insight into the inevitableness of the misery lurking in one's own breast, like a goblin perpetually changing its shape, co-operates to this result. As, according to Paul, the law given to the Jews was precisely the "strength" of sin (1 Cor. xv. 56), *so is the*

utmost world-progress the "strength" of the pessimistic consciousness of humanity. And just because it is so, and only because it is, is the utmost possible progress *a practical postulate.* In the fact that men usually only desire progress because they hope to become *happier*, we may see the practically *wholesome fascination* of the third stage of the illusion, through which the Unconscious stimulates men to tasks which for the most part they would be incapable of imposing on themselves if they penetrated the true purposes of the Unconscious. But if it is true, that the enhancement of consciousness to the point of a general pessimistic consciousness of humanity is the purpose of the Unconscious directly preceding the final purpose (as we shall see in the next chapter), then from our standpoint the progress of the world is precisely so urgent a requirement because it leads to this goal.

In the *resumé* of the first stage of the illusion we saw that *peoples in a state of nature* are not more wretched, but *more happy*, than civilised peoples; that the *poor*, low, and *rude* classes are happier than the *rich*, aristocratic, and *cultivated*; that the *stupid* are happier than the *clever*; in general, that a being is the happier the obtuser is its nervous system, because the excess of pain over pleasure is so much less, and the entanglement in the illusion so much greater. But now with the progressive development of humanity grow not only wealth and wants, but also the sensibility of the nervous system and the capacity and education of the mind, consequently also the excess of felt pain over felt pleasure and the destruction of illusion, *i.e.*, the consciousness of the paltriness of life, of the vanity of most enjoyments and endeavours and the feeling of misery; there grows accordingly *both* misery *and also* the consciousness of misery, as experience shows, and the often-asserted enhancement of the happiness of the world by the progress of the world rests on an altogether superficial appearance. (This is especially to be laid to heart by those who perhaps are not quite in

accord with me, that *at the present time* the sum of pain in the world outweighs the sum of pleasure.)

As the suffering of the world has increased with the development of organisation from the primitive cell to the origin of man, so will it further increase with the progressive development of the human spirit until one day the goal is attained. It was a childish short-sightedness when Rousseau, from the perception of increasing suffering, drew the conclusion: the world must, if possible, turn back—back to the age of childhood. As if the childhood of humanity had not been misery! No; if once backwards, then farther, ever farther, to the creation of the world! But we have no choice. We must *forwards,* even if we desire it not. It is not, however, the golden age that lies before us, but the iron; and the dreams of the golden age of the future prove still more empty than those of the past. As the burden becomes heavier to the bearer the longer the road on which he carries it, so will also the suffering of mankind and the consciousness of its misery increase and increase until it is insupportable. We may also employ the analogy with the ages of the individual. As the individual at first as child lives for the moment, then as youth revels in transcendent ideals, then as man strives after glory, and subsequently possessions and practical science, until, finally, as old man, perceiving the vanity of all endeavour, he lays to rest his weary head, longing for peace, so, too, Humanity. We see nations arise, mature, and perish; we find also in Humanity the clearest symptoms of growing older. Why should we doubt that, after the energetic activity of manhood, for it, too, one day old age will come, when, consuming the practical and theoretical fruits of the past, it enters upon a period of ripe contemplation, when with melancholy sorrow it overlooks at a single glance all the sufferings so unthinkingly of its past life-career, and comprehends the whole vanity of the previously supposed goals of its endeavour?

There is only one difference between it and the individual. Hoary humanity will have *no heir* to whom it may bequeath its heaped-up wealth, no children and grandchildren, the love of whom might disturb the clearness of its thought. Then will it, imbued with that sublime melancholy which one usually finds in men of genius, or even in highly intellectual old men, hover like a glorified spirit over its own body, as it were, and as Œdipus at Colonos, feel in the anticipated peace of non-existence the sorrows of existence as if they were *alien* to it, no longer *passion*, but only a self-*compassion*. That is the heavenly serenity, the divine repose, that breathes in Spinoza's Ethics, when the passions are swallowed up in the abyss of reason because they are clearly and distinctly grasped as ideas. But even if we assume that pure passionless state attained, if even the sorrow in self-compassion is glorified, it yet does not cease to be *grief, i.e., pain.* The illusions are dead, hope is extinct; for what is there still to hope? The dead-tired humanity drags along its frail earthly body wearily from day to day. The *highest* attainable were indeed *painlessness,* for where is positive happiness still to be sought? In the vain self-sufficiency of the knowledge that all is vanity, or that in the contest with those vain impulses reason now usually remains victor? Oh, no; such vainest of all vanities, such *arrogance of the intellect* has long been surmounted! But even painlessness is not attained by hoary humanity, for it is still not pure spirit; it is feeble and frail, and must nevertheless *work* in order to *live,* and yet does not know *for what* it lives; for it has indeed the illusions of life *behind* it, and hopes and expects *nothing* more from life. It has, as every very aged and self-knowing man, only one wish more: repose, peace, eternal dreamless sleep that may soothe its weariness. After the three stages of illusion of the hope of a positive happiness it has finally seen the *folly* of its endeavour; it finally foregoes all *positive* happiness, and longs only

for *absolute painlessness*, for nothingness, Nirvana. But not, as before, this or that man, but man*kind* longs foı nothingness, for annihilation. This is the only conceivable end of the third and last stage of the illusion.

We began this chapter with the question whether the being or the not-being of the present world deserves the preference, and have been obliged to answer this question, after conscientious consideration, thus, that all secular existence brings with it more *pain* than *pleasure*. As cause of this disproportion we have seen those moments collected under (1.) in the first stage of the illusion, which bring it about that all volition must necessarily be attended by more pain than pleasure, that thus all volition is foolish and irrational. Even then the only possible result was clearly to be perceived; the whole subsequent inquiry was merely the empirical inductive proof of the correctness of that consequence, which we certainly could not omit if we were to proceed surely.

If this result *appears* to the reader who has had the patience to accompany me so far a cheerless one, I must assure him that he was in error if he sought to find consolation and hope in philosophy. For such ends there are books of religion and edification. Philosophy, however, has but a single eye for truth, unconcerned whether what it finds suits the *emotional judgment entangled in the illusion of instinct* or not. Philosophy is hard, cold, and insensitive as a stone; floating in the ether of pure thought, it endeavours after the icy cognition of what is, its causes, and its essences. If the strength of man is unequal to the task of enduring the results of thought, and the heart, convulsed with woe, stiffens with horror, breaks into despair, or softly dissolves into world-pain, and for any of these reasons the practical pyschological machinery gets out of gear through such knowledge,— then philosophy registers these facts as valuable pyschological material for its investigations. It likewise registers it when the result of these considerations in the sym-

pathising soul of the more strongly built natures is a righteous indignation, a manly wrath clenching the teeth, a fervid fury at the frenzied carnival of existence, or when this rage turns into a Mephistophelean gallows-humour, that with half-suppressed pity and half-unrestrained mockery looks down with a like sovereign irony both on those caught in the illusion of happiness and on those dissolved in tearful woe,—or when the heart wrestling with fate spies after a last way of deliverance from this hell. To philosophy itself, however, the unspeakable wretchedness of existence—as manifestation of the folly of volition—is *only a* TRANSITION-MOMENT *of the theoretical development of its system.*

XIV.

THE GOAL OF EVOLUTION AND THE SIGNIFICANCE OF CONSCIOUSNESS (TRANSITION TO PRACTICAL PHILOSOPHY).

WE saw in Chap. xii. C. (vol. ii. pp. 359–361) that the chain of final causes is not, like that of phenomenal causality, to be conceived as endless, because every end in respect of the following one in the chain is *only means;* therefore in the end-positing understanding the *whole* future series of ends must always be present, and yet a completed endlessness of ends cannot be present in it. (Cp. Ges. Phil. Abhandl., No. ii., "Ueber die nothwendige Umbildung der Hegel'schen Philosophie aus ihrem Grundprincip heraus.")

Accordingly the series of final causes must be finite, *i.e.*, they must have a *last* or *ultimate end*, which is the goal of all the intermediate ends. Further, we have seen (vol. ii. p. 365, vol. iii. pp. 60 and 106) that justice and morality by their very nature cannot be final ends, but only intermediate ends; and the last chapter has taught us that also *positive* happiness cannot be the goal of the world-process, because not only is it not attained at every stage of the process, but even *its contrary*, misery and unblessedness, is at all times attained, which besides increases in the course of evolution by destruction of the illusion and with the heightening of consciousness.

It is altogether absurd to conceive *evolution* as *end in itself*, *i.e.*, to ascribe to it an absolute value; for evolution is still only the sum of its moments; and if the several moments are not only worthless, but even objectionable, so too is their sum, the process. Many indeed call *free-*

dom the goal of the process. To me freedom is nothing positive, but something privative, the absence of constraint. I cannot understand how this is to be regarded as *goal* of the evolution, if the Unconscious is one and all, and therefore there is no one from whom it could suffer constraint. If, however, there is anything positive in the notion of freedom, it can only be the consciousness of inner *necessity*, the formal in the rational, as Hegel says. Then is an increase of freedom identical with an increase of consciousness. Here we come to a point already frequently mentioned. If the goal of evolution is anywhere to be looked for, it is certainly on the path where we, so far as we can overlook the course of the evolution, perceive a decided and continuous *progress*, a gradual advance.

This is only and solely the case in the *development of consciousness*, of conscious intelligence, but here also in unbroken ascent from the origin of the primitive cell to the standpoint of humanity of the present day, and with the highest probability farther as long as the world lasts. Thus Hegel says (xiii. p. 36): "All that happens in heaven and on earth happens eternally; the life of God and all that takes place in time has this *sole aim*, that the spirit attain self-knowledge, become its own object, find itself become independent, unite itself with itself; it is duplication, alienation, but in order to find itself to be enabled to come to itself." Likewise Schelling: "To the Transcendental philosophy Nature is nothing but the organ of self-consciousness, and everything in Nature is only *necessary* because *only through such a* Nature can self-consciousness be achieved" (Werke, i. 3, p. 273); "and consciousness is that with which the whole creation is concerned" (ii. 3, p. 369). Individuation, with its train of egoism and wrong-doing and wrong-suffering, serves the origination of consciousness; the acquisitive impulse serves the enhancement of consciousness by the liberation of the mental energies through increasing

opulence, likewise vanity, ambition, and the lust of fame by spurring on the mental activity; sexual love serves it by improving mental capacity; in short, all those useful instincts that bring the individual far more pain than pleasure may often impose the greatest sacrifices. *By the way of the unfolding of consciousness* must then the goal of evolution be sought, and consciousness is beyond a doubt the *proximate* end of Nature—of the world. The question still remains open whether consciousness is really *ultimate end*, therefore also self-end, or whether it again serves only *another* end?

One's own object consciousness can assuredly not be. With pain it is born, with pain it consumes its existence, with pain it purchases its elevation; and what does it offer in compensation for all this? *A vain self-mirroring!* Were the world in other respects fair and precious, the empty self-satisfaction in the contemplation of its reflected image in consciousness might at any rate *be excused*, although it would always remain an infirmity; but an out-and-out miserable world, that can never have any joy in the sight of itself, but must condemn its own existence as soon as it understands itself, could such a world be said to have a rational, final, and proper end in the ideal apparent duplication of itself in the mirror of consciousness? Is there then not enough of real wretchedness that it should be repeated in the magic lantern of consciousness? No; Consciousness cannot possibly be the ultimate object of the world-evolution guided by the all-wisdom of the Unconscious. That would only mean *doubling* the torment, preying on one's own vitals. Still less can one suppose that the purely formal *determination of action* according to laws of conscious reason can be a rational man's aim; for why should the reason determine action, or why should action be determined by reason apart from the diminution of pain thereby to be induced? Were there not painful being and willing, no reason need trouble itself about its determination.

Consciousness and the continuous enhancement of the same in the process of the world's development can thus in no case be end in itself; it can merely be *means* to *another* end, if it is not to float *aimlessly* in the air, whereby then also regressively the whole process would cease to be *evolution*, and the whole chain of natural ends would hang aimlessly in the air; thus, properly speaking, would, *as ends*, be annulled and declared irrational. This assumption contradicts the all-wisdom of the Unconscious, therefore it only remains for us to search for *the* end which the development of consciousness subserves as means.

But where to get such an end? The observation of the process itself, and of that which mainly grows and progresses in it, leads only to the knowledge that it is Consciousness; morality, justice, and freedom have already been set aside.

However much we may ponder and reflect, we can discover nothing to which we could assign an absolute value, nothing that we could regard as end in itself, nothing that so affects the world-essence in its inmost core, *as Happiness.* After happiness strives everything that lives, according to endæmonist principles motives influence us, and our actions are consciously or unconsciously guided. On happiness in this or that fashion all systems of practical philosophy are grounded, however much they may think to deny their first principle. The endeavour after happiness is the most deeply rooted impulse, is *the essence of the will itself seeking satisfaction.* And yet the investigations of the last chapter have shown that this endeavour is exposed to objections; that the hope of its fulfilment is an illusion; and that its consequence is the pain of disillusion, its truth the misery of existence; have taught us that the progressive evolution of consciousness has the negative result of gradually perceiving the illusory character of that hope, the folly of that endeavour. Between the will striving after absolute satisfaction and felicity and the intelligence emancipating itself more and more

from the impulse through consciousness a *deeply pervading antagonism* cannot therefore be mistaken. The higher and more perfectly consciousness develops in the course of the world-process, the more is it *emancipated* from the blind vassalage with which it at first followed the irrational will; the more it *sees through* the illusions aroused in it by impulse for the cloaking of this irrationality, the more does it assume a hostile position in opposition to the will struggling for positive happiness, in which it combats it step by step in the course of history, breaks through the ramparts of illusions behind which it is entrenched one after the other, and will not have drawn its last consequences until it has completely *annihilated* it, in that after the destruction of every illusion only the knowledge remains that *every* volition leads to unblessedness, and only *renunciation* to the *best attainable* state, *painlessness.* This victorious contest of consciousness with the will as it empirically meets our eyes as result of the world-process, is now, however, anything but accidental; it is *ideally contained* in consciousness, and is *necessarily* posited along with its development. For in Chap. iii. C. we saw that the *essence* of consciousness is *emancipation* of the intellect from the will, whereas in the Unconscious the idea only appears as servitor of the will, because there is nothing but the will to which it can owe its *origin,* being incapable of self-origination (cp. C. chap. i. vol. ii. p. 59).

Further, we know that in the sphere of ideation the logical, *rational,* rules, which is intrinsically just as repugnant to the will as the will to it; whence we conclude that if the idea has only attained the necessary degree of independence, it will have to condemn everything contra-rational (anti-logical) that it finds in the irrational (alogical) will, and to annihilate it. Thirdly, we know from the foregoing chapter that there follows from volition always more pain than pleasure; that therefore the will that wills *happiness attains* the contrary, *unhappiness;* therefore *most irrationally* and for its proper torment digs

its teeth into its own flesh, and yet on account of its unreason can be taught by no experience to desist from its unblessed willing. From these three premises it necessarily follows that consciousness, so far as it attains the necessary clearness, activity, and fulness, must also more and more perceive, and accordingly contest to the last, the irrationality of volition and endeavour after happiness. This contest, hitherto recognised by us only *a posteriori*, was accordingly not an accidental, but a necessary result of the creation of consciousness; it lay therein *a priori preformed.* But now, if consciousness *is* the proximate end of Nature or the world; if we necessarily *need* for consciousness a further end, and can absolutely *think* no other true end than the greatest possible happiness; if, on the other hand, an endeavour after *positive* happiness that is identical with volition is preposterous because it only attains unblessedness, and the greatest possible *attainable* state of happiness is painlessness; if, lastly, it lies *in the notion* of consciousness to have for result the emancipation of the intellect from the will, the combating and final annihilation of willing, should it be any longer doubtful that the all-knowing Unconscious thinking end and means at once has created consciousness *for that very reason, to redeem the will from the unblessedness of its willing,* from which it cannot redeem itself,—that the real end of the world-process, to which consciousness serves as final means, *is this, to realise the greatest possible attainable state of happiness, namely, that of painlessness?*

We have seen that in the existing world everything is arranged in the wisest and best manner, and that it may be looked upon as the best of all possible worlds, but that nevertheless it is thoroughly wretched, and worse than none at all. This was only to be comprehended in such wise (cp. conclusion of Chap. xii. C.), that, although the "What and How" in the world (its essence) might be determined by an all-wise Reason, yet the "That" of the world (its existence) must be posited by something abso-

lutely irrational, and this could only be the will. This consideration is for the rest only the same applied to the world as a whole that we have long known as applied to the individual. The atom of body is attractive power, its "What and How," *i.e.*, attraction according to this or that law, is Presentation; its "That," its existence, its reality, its force, is will. Thus also the world is *what* it is and *how* it is as presentation of the Unconscious, and the unconscious idea has as servant of the will, to which it itself is indebted for actual existence, and as compared with which it has no independence, also no counsel and no voice in the "That" of the world. The will is essentially only non-rational (destitute of reason, alogical), but in that it acts, it becomes through the consequences of its volition, *irrational* (contrary to reason, anti-logical), inasmuch as it attains unblessedness, the contrary of its volition.[1] Now to bring back this irrational volition, which is guilty of the "That" of the world, this unblessed volition into non-volition and the painlessness of nothingness, this task of the logical in the Unconscious is the determinator of the "What and How" of the world. For the Reason the question therefore is to repair the mischief done by the irrational Will. The unconscious idea represents the will, if not positively as will, yet negatively as the negative of the logical, or as its own limit, *i.e.*, as the non-logical; but it has in the first place and as such no power over the will, because it has no independence in respect of it, therefore it must employ an artifice to

[1] We must not regard this alogical, which afterwards becomes an antilogical, as a something that undergoes change, but it is *per se*, alogical, so far as it is out of all relation and contact with the logical, and keeps entirely aloof from this, whilst it shows itself as anti-logical by coming into relation with the logical through its activity, which latter now cannot avoid finding in this activity of the alogical a contrast to its own nature, therefore an anti-logical in contrast to the logical, and encountering it as such. Were there no logical principle, were the other principle, which is not the logical, the only one, its activity could also never be termed anti-logical, and so far it is *accidental* to the alogical that it afterwards becomes anti-logical, in the same sense as it is accidental to it that there is altogether beside and beyond it a logical principle.

utilise the blindness of the will, and to give it such a content, that by a peculiar turning back upon itself in individuation it falls into conflict with itself, whose result is consciousness, *i.e.*, the creation of an independent power opposed to the will, in which it can now begin the contest with the will. Thus the world-process appears as a *perpetual struggle of the logical with the non-logical*, ending with the conquest of the latter. If this conquest were impossible, if the process were not at the same time development to a fairly beckoning goal, if it were interminable, or even one that exhausted itself in blind necessity or contingency, so that all wit would in vain endeavour to steer the ship into harbour, then, and only then, would this world be really absolutely cheerless, a hell without an exit, and dumb resignation the only philosophy. But we who perceive in Nature and history only a single grand and marvellous process of development, we believe in a final victory of the ever more radiantly shining reason over the unreason of blind volition; we believe in a goal of the process that brings us release from the torment of existence, and to whose induction and acceleration we too may contribute our mite in the service of reason. (Cp. my demonstration of the self-annulling of the process from the notion of development, Ges. Phil. Abhandl., No. ii. pp. 50–55.)

The main difficulty consists in this, *how* the termination of this contest, the final redemption from the misery of volition and existence into the painlessness of non-willing and non-being, in short, how the entire annulling of volition by consciousness is to be conceived. There is only one attempt to solve this problem known to me, namely, that of Schopenhauer, in sects. 68–71 of the first volume of the "World as Will and Idea," which essentially agrees with the similar but more obscure designs of the mystical ascetics of all ages, and of the doctrine of Buddha, as Schopenhauer himself very plainly shows (cp. W. as W. and I., ii. chap. xlviii.)

The main point of this theory consists in the assumption that the individual, in virtue of the individual cognition of the misery of existence and the unreason of volition, is able to cause his personal willing to cease, and thereby *to be individually annihilated after death*, or, as Buddhism expresses it, to be no more born again. It is obvious that this assumption is altogether incompatible with the fundamental principles of Schopenhauer, and only his inability to grasp the notion of development renders explicable the shortsightedness which made it impossible for him to get rid of this palpable inconsistency in his system. This inconsequence must here be indicated very briefly.—The will is for him the *ἕν καὶ πᾶν*, the sole being of the world, and the individual only subjective appearance, in strictness never objectively actual phenomenon of this essence. But even if it were the latter, how should it be possible for the individual to negate his individual will as a whole, not merely theoretically but also practically, as his individual volition is only a ray of that Only Will? Schopenhauer himself rightly declares that in *suicide* the negation of the will is not attained, but it is said to be attained in the highest conceivable degree in *voluntary starvation* (cp. W. als W. und V., 3 Aufl. i. 474). That sounds indeed almost absurd, if one remembers his declaration "that the body is the will itself, objectively regarded as a phenomenon in space," whence it immediately follows that with the annulling of the individual will, also its appearance in space, the body must *disappear*. According to our view, with suppression of the individual will at least all the organic functions dependent on the unconscious will, as heart-throb, respiration, &c., must instantly cease, and the body collapse as *corpse*. That this too is empirically impossible will be doubted by nobody; but whoever is obliged to first *kill* his body *by refusal of food* proves by that very act he *is not able* to deny and *abolish* his unconscious *will* to live.

But supposing the impossible to be possible, what would

be the consequence? One of the many rays or individual objectifications of the One Will, that which related to this individual, would be withdrawn from its actuality, and this man be dead. That is, however, *no more and no less* than happens at *every* decease, no matter to what cause it is due, and to the Only Will the consequences would have been the same if a tile had killed that man; it continues after, as before, with unenfeebled energy, with undiminished avidity, to lay hold of life wherever it finds it and can lay hold of it; for to acquire experience and become wiser by experience is impossible to it, and *it cannot* suffer a quantitative abatement of its essence or its substance through the withdrawal of a merely one-sided direction of action. Therefore the endeavour after *individual* negation of the will is *just as foolish and useless*, nay, still more foolish, than *suicide*, because it only attains the same end more slowly and painfully: abolition of *this* appearance without altering the essence, which for every abolished individual phenomenon is ceaselessly objectified in new individuals. Accordingly all asceticism and all endeavour after individual negation of will is perceived and proved to be aberration, although an aberration only in procedure, not in *aim*. And because the goal which it endeavours to gain is a right one, it has when rare, by ever whispering in the world's ear a *memento mori*, as it were, and provoking a presentiment of the issue of all endeavour, a high value; it becomes, however, injurious and pernicious when, attacking whole nations, it threatens to bring the world-process to stagnation, and to perpetuate the misery of existence. What would it avail, *e.g.*, if all mankind should die out gradually by sexual continence? The world as such would still continue to exist, and would find itself substantially in the same position as immediately before the origin of the first man; nay, the Unconscious would even be compelled to employ the next opportunity *to fashion a new man or a similar type*, and the whole misery would begin over again.

If we look more deeply into the nature of asceticism and personal negation of will, and to the position which it occupies in the historical process in its highest flowering in pure Buddhism, it appears as the issue of the Asiatic pre-Hellenic period of development, as the union of *hopelessness* for here *and* hereafter with the still uneradicated *egoism* which thinks not of the redemption of the *whole* but only of *its own* individual redemption. As we briefly pointed out above (cp. pp. 100–101) the immorality and *perniciousness* of this standpoint for the whole of humanity and the world-process, so now the *folly* of the same is revealed for the individual who builds upon it, in that the personal hope of redemption has turned out illusory, consequently *every means made use of for this end* (thus also *Quietism*, so far as it is not to serve an individual or nationally coloured Epicureanism, but to lead to redemption through individual negation of the will) is *absurd.*

Schopenhauer, too, means at bottom something different to what he says. Before him, too, hovers in shadowy outlines, as the only goal worthy of effort, a *universal* negation of will, as, *e.g.*, the following passage proves: "After what was said in the second book on the *connection of all* phenomena of will, I think I may assume that with the *highest* phenomenon of will (humanity), the weaker reflection of the same, animality (and the still lower forms of objectification of will), would also *pass away*, as with the full light the penumbræ disappear" (W. a. W. u. V., 3 Aufl. i. 449). On the following page he points, among others, to the biblical passage (Rom. viii. 22) in which it is said, "For we know that *the whole creation* groaneth together" for the redemption; it expects, however, its redemption "from us which have the first-fruits of the spirit." Such deeper perspectives are, however, nevertheless, out of the question for Schopenhauer's expressly declared standpoint, not only because their consideration would require a surrender of the latter, but also because the following out of them is not at all possible with the

unhistorical world-theory of his subjective idealism. It only becomes so when the reality of time and the positive meaning of the temporal, *i.e.*, historical, development is acknowledged, through whose cumulative progress the prospect opens up of a future attainment of such states of humanity as may enable that which now appears absurd one day to obtain realisation.

For him, who has grasped the idea of development, it cannot be doubtful that the end of the contest between consciousness and the will, between the logical and the non-logical, can only lie at the *goal* of evolution, at the issue of the world-process; for him who before all holds fast to the *universality and unity* of the Unconscious, the redemption, the turning back of willing into non-willing, is also only to be conceived *as act of each and all*, not as *individual*, but only as cosmic-*universal* negation of will, as the act that forms the end of the process, as the *last moment, after* which there shall be no more volition, activity, or time (Rev. x. 6). That the cosmic process cannot be thought without an end in time, cannot be of endless duration, is presupposed; for if the goal lay at an *infinite distance*, a *finite* duration of the process, however long, would .bring *no nearer* the goal, that would still remain infinitely remote. The process would thus no longer be *a means* for *reaching* the goal, consequently it would be *purposeless* and *aimless*. As little as it would comport with the notion of development to ascribe an infinite duration in the *past* to the world-process, because then every conceivable development must be already traversed, which yet is not the case, just as little can we allow to the process an endless duration for the *future*; both would abolish the idea of *development towards a goal*, and would put the world-process on a level with the pouring of water into a sieve of the daughters of Danaus. The complete victory of the logical over the alogical must therefore coincide with the temporal end of the world-process, the last day.

Whether humanity will be capable of so high an enhancement of consciousness, or whether a higher race of animals will arise on earth, which, continuing the work of humanity, will attain the goal, or whether our *earth* altogether is only an abortive attempt to reach such goal, and it will only be reached, when our little planet has long been reckoned to the frozen celestial bodies, on a planet invisible to us of another fixed star under more favourable conditions, is hard to say. Thus much is certain, wherever the process may come to an end, the goal of the process and the contending elements will always be the same in this world. If really humanity is able and called to bring the world-process to a final issue, it will at all events have to do this at the height of its development under the most favourable circumstances of the earth's habitableness, and therefore we do not need for this case to trouble about the scientific perspective of a future congelation and refrigeration of the earth, since then long before the occurrence of such a terrestrial refrigeration the world-process altogether would have been arrested, and the existence of this kosmos with all its world-lenses and nebulæ have been abolished.

Schopenhauer does not hesitate to declare man equal to the task, but he is only so decided because he conceives the problem *in an individual sense*, whereas we must apprehend it *universally*, when it of course requires quite other conditions, which we shall soon examine more closely. However that be, of the world known to us we are the first-fruits of the spirit and must bravely wrestle. If victory does not follow, it is not our fault. If, however, we are capable of victory, and we should only miss obtaining it through indolence, we, *i.e.*, the creative being of the world, which is one with us, would have to bear so much the longer as immanent punishment the torment of existence. Therefore vigorously forward in the world-process as workers in the Lord's

vineyard, for it is the process alone that can bring redemption![1]

Here we have reached the point where the philosophy of the Unconscious gains a principle which alone can form the basis of practical philosophy. The truth of the first stage of the illusion was despair of existence here; the truth of the second stage of the illusion was despair also of the hereafter; the truth of the third stage of the illusion was the absolute resignation of positive happiness. All these points of view are merely *negative;* practical philosophy and life, however, need a *positive* standpoint, and this is *the complete devotion of the personality to the world-process for the sake of its goal, the general world-redemption* (no longer, as in the third stage of the illusion, in the hope of a positive happiness in some later phase of the process). Otherwise expressed, the principle of practical philosophy consists in this, TO MAKE THE ENDS OF THE UNCONSCIOUS ENDS OF OUR OWN CONSCIOUSNESS, which follows immediately from the two premises, that, in the first place, consciousness has made the goal of the world-redemption from the misery of volition its own goal; and, secondly, that it has the persuasion of the all-wisdom of the Unconscious, in consequence of which it recognises all the means made use of by the Unconscious as the most suitable possible, even if in the special case it should be inclined to harbour doubts thereon. Since selfishness, the original source of all evil, which theoretically, by the acknowledgment of Monism, has already been ascertained to be naught, can practically be effectively broken by nothing else than the cognition of the illusory nature of all endeavours after positive happiness, the requisite perfect devotion of the personality to the whole is

[1] I hardly need specially call the reflective reader's attention to the point that the notion of redemption is here extended from the individual to humanity and the all-one world-essence sentient in it and the rest of Nature, *not* in respect of *sin*, but of *evil*. The former would be perfectly meaningless, the latter is an unavoidable consequence of the monistic theory.

at this standpoint *more readily* attainable than at any othei (p. 98). Further, since the dread of pain, the fear of the eternal prolongation of the sensually present pain, yields always a far more energetic motive for effective action than the hope of a felicity represented as future, at this standpoint *instinct* will be *restored to its rights* far *more powerfully* than in the third stage of the illusion by the mere suppression of egoism (pp. 99–102), and THE AFFIRMATION OF THE WILL TO LIVE *proclaimed provisionally alone true;* for only in complete devotion to life and its pains, not in cowardly renunciation and withdrawal, is anything to be *achieved* for the world-process. The reflecting reader will also, without further suggestion, understand how a practical philosophy erected on these principles should be shaped, and that such an one cannot contain the *disunion*, but only the full RECONCILIATION with life.[1] It is now also obvious how only the *unity* of Optimism and Pessimism, here expounded, of which every human being carries in himself an obscure image as his norm of action, is able to give an energetic, and indeed the strongest conceivable impulse to effective action, whilst the one-sided Pessimism from nihilistic despair, the one-sided and really consistent Optimism from easy unconcern must lead to Quietism. [For those readers who regard the standpoint of our time, which I call the third stage of the illusion, the true one, and who are not inclined to deem it possible that this too will ever be recognised in the manner indicated by me as illusion by the further historical development of the consciousness of humanity, I will only remark, that the principles here expressed (to make the ends of the Unconscious ends of consciousness, &c.) remains just as valid for them, as the observations made on occasion of the third stage of the illusion with respect to egoism (suicide, Quietism, &c.) retain their validity from the point of view here reached, since it is for both indifferent

[1] Cp. Ges. Phil. Abhandlungen, No. iv.: "Ist der pessimistische Monismus trostlos?"

whether the final goal of the world-development be conceived positively or negatively.]

We have in conclusion still to deal with the question, *in what manner* the end of the world-process, the relegation of all volition to absolute non-volition, with which, as we know, all so-called existence (organisation, matter, &c.), *eo ipso* disappears and ceases, is to be conceived. Our knowledge is far too imperfect, our experience too brief, and the possible analogies too defective, for us to be able, even *approximately*, to form a picture of the end of the process; and I beg the gentle reader *not* to take the following for an apocalypse of the end of the world, but only for hints which are to prove that the matter is *not quite so unthinkable* as it might well appear to many at the first blush. But even those whom these aphorisms on the mode of conceiving that event may far more repel than the bare enouncement of the same, I beg not to be misled as to the *proved necessity* of that only possible goal of the world-process by the difficulties which attend the comprehension of the "How" at a point so remote from the end.[1] Of course, we can only contemplate the case that mankind, and not another species of living beings unknown to us, is called to solve the problem.

The *first* condition of the success of the work is this, that by far the *largest part* of the Unconscious Spirit manifesting itself in the present world is to be found in humanity; for only when the negative part of volition in humanity outweighs the sum of all the rest of the will objectifying itself in the organic and inorganic

[1] Experience has shown me that all limiting clauses in respect of the *purely problematical* nature of the following suggestions are insufficient to guard against an intentional or unintentional misunderstanding, as though positive *assertions* of any kind whatsoever were meant to be made here upon the "How" of the end. If I wrote for *success*, it would certainly have only been the commonest prudence to suppress in the first edition these four pages, literally indifferent for the book as a whole. It is always more profitable for the *author* not to expose too much the difficulties of a subject which are for the time being insoluble; for the advance of *science*, *on the contrary, the clearest exposure is most advantageous.*

world, only then can the human negation of will annihilate *the whole actual volition of the world without residuum*, and cause the whole kosmos to disappear at a stroke by withdrawal of the volition, which alone gives it existence. (That is here the only question, not as to a mere suicide of humanity *en masse*, the complete inutility of which for attaining the goal of the world-process has already been proved above.) This supposition now, that one day the major part of the actual volition or of the functioning Unconscious Spirit may be manifested in humanity, seems to possess no difficulty in principle. On the earth we see man ever suppressing other animal and vegetable life, save those animals and plants that he employs for his own use. Future still undreamt-of advances in chemistry and agriculture may permit the increase of the earth's population to a very considerable degree, although it already now amounts to upwards of 1300 millions, a relatively small part of the solid land supporting as dense a population as the means of obtaining nourishment known at our present stage of civilization allow. Of the stars only a comparatively small part have entered upon that brief period of refrigeration which permits of the existence of organisms; but not to mention that for the raising of a luxuriant organisation quite other conditions are required than merely the right temperature (*e.g.*, irradiation through rays of light, suitable atmospheric pressure, existence of water, right mixture of the chemical constituents of the atmosphere, &c.), of that insignificant number which at all support organisation, only a very small part again will be able to produce beings of a stage of organisation approximating to the human. The sidereal developments are measured by such immense intervals that it is *a priori* extremely improbable that the existence of a highly organised *species* on another star should coincide with the duration of mankind on earth.—But now how much greater is the spirit that manifests itself in a cultivated man than that in an animal or a plant; how much greater than that in an

unorganised complex of atoms! One must not commit the error of estimating the strength of the active will *merely* by the *mechanical* effect, *i.e.*, by the degree of the resistance of *atomic* forces overcome; this would be extremely one-sided, since the manifestation of the will in the atomic forces is only the lowest. The will, however, has many other aims, and a contest of the most violent desires can take place without any perceptible influence on the position of the atoms. Therefore the hypothesis seems to me to be by no means far-fetched, that one day in a remote future humanity may combine in itself such a quantity of spirit and will, that the spirit and will active in the rest of the world is considerably outweighed by the former.

The *second* condition of the possibility of victory is, that the consciousness of mankind be *penetrated* by the folly of volition and the misery of all existence; that it have conceived so *deep a yearning* for the peace and the painlessness of non-being, and all the motives hitherto making for volition and existence have been so far seen through in their vanity and nothingness that that yearning after the annihilation of volition and existence attains resistless authority as a practical motive. According to the last chapter, this condition is one whose fulfilment in the hoary age of humanity we may expect with the greatest probability, when the theoretical cognition of the misery of existence is truthfully comprehended, and this cognition gradually more and more overcomes the opposing instinctive emotional judgment, and even becomes a practically efficient feeling, which, as a union of present pain, memory of former pain and fore-feeling of care and fear—becomes a collective feeling in every individual, embracing the whole life of the individual, and through sympathy the whole world, which at last attains unlimited sway. Doubt as to the general motive power of such an idea at first certainly arising and communicated in more or less abstract form, would not be authorised, for it is the invariably observed course of historically regulative ideas which have arisen in

the brain of an individual, that although they can only be communicated in abstract form, they penetrate in course of time into the heart of the masses, and at last arouse their will to a passionateness not seldom bordering on fanaticism. But if ever an idea was *born as feeling*, it is the pessimistic sympathy with oneself and everything living and the longing after the peace of non-existence; and if ever an idea was called to fulfil its historical mission without turbulence and passion, silently but steadily and persistently in the interior of the soul, it is this. Since experientially the individual negation of the will *at variance* with the ends of the Unconscious furnished in such numerous cases a sufficient motive for overcoming the instinctive will to live in quietistic ascetic self-immolation (certainly without any metaphysical result), it is not obvious why at the end of the world-process the universal negation of will *fulfilling* the purpose of the Unconscious should not likewise be able to afford a sufficient motive for overcoming the instinctive will to live, especially as everything hard is the more easily executed the greater the co-operation. It should further be noted that humanity has still a life of many generations in which to gradually subdue and deaden, by habit and hereditary influence, the passions opposing the pessimistic feeling and the longing after peace, and to strengthen the pessimistic disposition by hereditary transmission. Even now we may remark that the natural force of passion and its demoniac power has to yield no inconsiderable domain to the levelling and enfeebling influences of modern life, and this enfeebling process will attain results the more considerable the more law and morals restrict personal caprice, and the more rationally life is managed according to the pattern of trivial worldly prudence from childhood upwards. It is one of the signs of humanity's *growing old* that not a growth, but a diminution of the energy of feeling and of passion opposes the growth of intellectual clearness; that thus the influence of conscious intellect in the provinces of feeling and willing, undeniably present at every stage,

is, for a twofold reason, constantly on the increase, until in old age it becomes decidedly dominant. From this point of view, too, the possibility therefore appears anything but remote that the pessimistic consciousness will one day become the dominant motive of voluntary choice.—— We may modify this second condition in such a way that not *all* humanity, but only a part thereof, need be penetrated by this consciousness, provided that the spirit that is manifested in it be the larger half of the active spirit of the universe.

The *third* condition is a sufficient communication between the peoples of the earth to allow of a *simultaneous common resolve.* On this point, whose fulfilment only depends on the perfection and more dexterous application of technical discoveries, imagination has free scope.

If we assume these conditions as given, there is a possibility that the majority of the spirit active in the world may form the resolve to give up willing.

There now arises the further question whether, in the nature of the will, its functional activity and the mode of its determination by motives, the *possibility* is at all given *of attaining a universal negation of the will, supposing* the preponderating part of the actual world-will to be contained in that mass of conscious mind which resolves *a tempo* to will no more, *no matter* whether this supposition be fulfilled within humanity or another species, or only under quite other conditions of existence of a future phase of development of the kosmos? We have to go back for the decision of this last question to our knowledge of the nature of volition and the laws of motivation following therefrom (comp. Chap. xi. B.), it being always assumed that these must remain identical in every possible form of objectification of the will.

It admits of no doubt that a special volition in man, a desire, affection, or passion, may, in certain circumstances, be neutralised by the influence of conscious reason in the special case. If, *e.g.*, I aim at honour by a deed or a

work, and my reason tells me that those whose recognition I covet are fools and blockheads, this insight, if it is sufficiently convincing and potent, is able to allay my ambition, at least in this case. But now all psychologists are agreed that such a suppression is *not* to be conceived by *direct* influence of the reason on the desire to be suppressed, but only indirectly by the motivation or *excitement of an opposite desire*, which now on its part comes into collision with the first, the result of which is that they neutralise one another. Only in this manner is the suppression of the positive world-will to be conceived that Schopenhauer calls the will to live. Conscious cognition cannot directly diminish or suppress the will, but it can only excite an opposite, therefore negative will, which diminishes the intensity of the positive will. Quite inadmissible accordingly is Schopenhauer's doctrine of the *quietive* of the will consisting in an altogether different mode of knowledge, before which the motives are to be inefficient, and which shall be the only possible case of an incursion of the transcendent freedom of the will into the world of phenomena (cp. W. a. W. u. V., Bd. ii. p. 476–477). Such incomprehensible, utterly unjustified miracles are with our view superfluous. How beautifully, on the contrary, Schelling says (ii. 3, p. 206), "Even God cannot otherwise conquer the will than through itself."

If in the struggle of the special desires often two desires effect no reciprocal suppression in spite of the struggle, this happens either because they are only partially opposed, but partially pursue different side-ends, therefore their paths form only an angle, as it were; or it happens because the one desire is indeed in fact continually annihilated, but just as continually is instinctively *born anew* from the *persistent* ground of the Unconscious, so that there arises the *appearance* of its not being altered at all. In the opposition of the affirmation and negation of will the contrast is so mathematically strict that the former case certainly cannot occur, and for an immediate

resurgence of the world-will after its total annihilation there is at any rate entirely wanting the analogy with the single desire, because in the latter the background of the actual world-will, in the former, however, nothing actually any longer remains. (For the rest, the possibility of a resurgence will receive notice in the following chapter.) As long, then, as the opposition of the will motived by consciousness has not yet attained the strength of the world-will to be suppressed, so long will the continually annihilated part continually reassert itself, supported on the remaining part, which also further secures the positive direction of the will; but as soon as the former has attained the same strength as the latter, there is no obvious reason why both should not completely paralyse one another and reduce to zero, *i.e.*, be destroyed without residuum. A negative excess is therefore inconceivable, because *the zero-point* is *the goal* of the negative will, which it *will* not transgress.

The motivation or excitement of the negative will by conscious knowledge is, according to the analogy of the excitement of a special negative desire through rational insight, *not merely conceivable, but demanded;* for here in the universal, just as in the individual, the ground on which reason sets in motion the conscious will of opposition is no other than an endæmonological one—*regard to the attainment* of the happiest possible state, beyond which goal the positive unconscious will in its blindness darts to its misery. This endeavour after the greatest possible state of satisfaction, which the blind will only seeks from want of understanding in a perverse direction, thus belongs actually quite universally to the nature of the will itself, and wherever in the kosmos so high a consciousness may arise that it perceives the absurdity of the way to the goal, there necessarily a conscious volition is motived by this knowledge, which seeks to attain the greatest possible state of satisfaction by the opposite path, namely, by way of negation of the will.

The result of the last three chapters is, then, as follows. Volition has by its nature an excess of pain for its consequence. Volition, which posits the "That" of the world, thus condemns the world, no matter *how* it may be constituted, to torment. To obtain redemption from this unblessedness of volition, which the all-wisdom or the logical element of the unconscious Idea cannot directly effect, because it is itself in bondage to the Will, the logical in the Unconscious procures the emancipation of the Idea through consciousness in that it thus dissipates the will in individuation, so that its separate tendencies turn against one another. The logical principle guides the world-process most wisely to the goal of the greatest possible evolution of consciousness, which being attained, consciousness suffices to hurl back the total actual volition into nothingness, by which the *process* and the *world ceases,* and ceases indeed without any residuum whatever whereby the process might be continued. The logical element therefore ensures that the world is a best possible world, such a one, namely, as attains redemption, not one whose torment is perpetuated endlessly.

XV.

THE ULTIMATE PRINCIPLES.

We have in our previous inquiries ever and again met with two principles, Will and Idea, without the assumption of which no explanation would be possible, and which are really principles, *i.e.*, original elements, because every attempt to resolve them into simpler elements appears from the first hopeless, but all previous endeavours to refer one to the other are to be regarded as miscarrying. We have, however, also nowhere needed other than these two principles for our explanations, and what perhaps might be regarded as principia, feeling or sensation and consciousness, we have seen to be phenomenal consequences of our principles. *Other* elementary activities, as imagining, willing, perceiving, or feeling, have, so far as I know, never been introduced even tentatively in any spiritualistic philosophy, so that he alone could find fault with our adhering to Will and Idea who, on his part, should furnish the proof that the previously received elementary functions of the mind are not the right ones, and show what others are to be put in their place.

Now, as concerns our conceptions of these principia, we proceeded here too purely empirically, and inductively. We understood them, in the first place, as the ordinary intelligence formed in the leading-strings of the Teutonic languages apprehends them, and altered, extended, and limited them as the scientific need of explaining facts required. The starting-point of our philosophising is accordingly anthropological, so far as the linguistic popular

consciousness and philosophic empiricism derive both from the *inner* experience of the mental activity of men. In fact, this starting-point appears, after a little reflection, the only possible one. Only what we are able to understand by *analogy with ourselves, only that* are we able *at all* to understand of the world; and were we not *ourselves a piece of the world,* and had not our anthropological elementary functions, like all the other phenomena of this world, grown out of the common simple fundamental principles of this world, then with the absence of resemblance and analogy between us and the rest of this world all possibility also of an understanding of the same would be cut off for us. But supported precisely on this intimate *affinity* of ourselves with other products of Nature and with the common metaphysical roots of all, we may confidently indulge in a cautious use of analogy, and risk the analogous transference of the anthropological principia to the rest of Nature, if we only proceed *critically enough* in the *separation of those peculiarities* which *distinguish* us men from the rest of Nature.

Thus we extended the anthropological principles Will and Idea by recognition of the same, first in the descending scale of animals, then in the independent lower nerve-centres of the human organism, then in the kingdom of the lower animals and protists, then in the vegetable kingdom, then, lastly, in the domain of inorganic matter. We felt, however, compelled by criticism, at the stages more removed from man, more and more *to strip off* that which in self-observing man most strikes the eye, namely, *Consciousness,* but also at the same time perceived that even in the highest forms of the mental activity of man such volition and ideation play the most significant part as is free from the form of consciousness; that man too is what he is only by this, that the same unconscious spirit dwells in him which he long admired in silence in the manifestations of the phenomena of Nature of less developed consciousness. We understood, further, that this

unconscious spirit must be the common bond of the world and the support of the unity of the creative plan prevailing in it; nay, that it must altogether be the indivisible metaphysical essence, as whose objective phenomena the only apparently substantially separated natural individuals are to be regarded. Thus before our searching glance the principles "Unconscious Will" and "Unconscious Idea" coalesced to form the one universal spiritual world-essence, which the dark impulse of mankind has always sought by the most diverse paths and denoted by the most diverse names, but yet everywhere at a certain stage of culture has apprehended as *spirit.* As said, *we can comprehend* of the nature of such a being only just so much as is revealed of this nature also in ourselves through the medium of internal experience, *as we ourselves are its phenomena* and apprehend ourselves as such, as its principles are also visibly unfolded in us; only he who denies the *essential identity and continuity of the world* and the harmony of the principles *efficient in it* with the principles *producing it,* would be able to blame our procedure as anthropopathic; and only the absolute abandonment of thought of the most thorough-going scepticism would remain if this mode of procedure were repudiated in principle. The warning against anthropopathism is only justified so far as it is limited to the sharpest critical severance from the ultimate principles of all that could anyhow belong to the special phenomenal form of the world-essence in *man* or in the *animal kingdom,* or in some narrow group of objectifications of the All-one, not exhausting Nature in its totality. In this direction, however, I believe I have in fact also conscientiously satisfied the most far-going and most scrupulous requirements, which is best proved by this, that the principles Will and Idea are apprehended in the highest degree of a universality destitute of all empirical particularity, namely, as generally as the necessity of at all retaining a positive and precise concept any way admits. Thus is

every *unwarrantable* and *spurious* anthropopathism most carefully avoided, without abandoning the only path of understanding that our position in the world *renders possible* for us, but also *permits, i.e.,* justifies by results, without therefore from an ultra-scepticism distrusting and disdaining *genuine* anthropopathism, which indeed only reaches just as far as *we ourselves* are *of metaphysical essence* (or in theological language: of divine origin).

If now, according to the results of our previous inquiries, the two principles Will and Idea, conceived in metaphysical essential unity, actually suffice for the explanation of the phenomena presented to us in the known world, they form the apex of the pyramid of inductive knowledge, and it only remains to us in conclusion to take one more view of the height thus scaled, when a comparison with the ultimate principles of existing philosophical systems may not be uninteresting. This chapter forms, accordingly, the direct continuation of Chap. iv. A., Chaps. i., vii., viii. C., and in part also of Chaps. xi., xii., and xiv. C., whose contents I beg the gentle reader particularly to bear in mind.

The contents of the present chapter may perhaps possess least interest for the reader who has had but little philosophical culture, because more than all the foregoing they lose themselves in the analysis of notions which in general extend to the bounds of abstraction and of our intelligence. However, on the one hand, the relation here first more precisely indicated of my point of view to the systems of the most important philosophers, and, on the other hand, the stricter discussion of the notions whose significance and mutual relations had hitherto for the most part been presupposed, should, on account of the clearing up of many points previously left in obscurity, be a sufficient inducement to a reader who has followed what has gone before with interest not to leave this concluding chapter unread.

If the value of scientific conclusions be estimated solely according to the degree of their certainty or accuracy,

undoubtedly the value of the same is less the further they are removed from the ground of the facts to be explained, because their probability becomes less, and then the value claimed by the apex of the pyramid of knowledge would be least. However, for the determination of value, yet other elements than merely the degree of probability should be taken into account, which may be summed-up in the degree of importance which these results would have in comparison with other objects of knowledge, supposing that they were all apprehended with the probability 1, *i.e.*, with absolute certainty. As for this factor, the value of the apex of the pyramid of knowledge manifestly exceeds all other possible objects of knowledge, and therefore I, for my part, shall not be weary in contributing my mite to the better establishment of the last metaphysical principles, hoping that very soon some other may come who may go still farther. On the other hand, however, I hope that my successors will find the *base* of the pyramid built so well and firmly by me as to be able to build farther thereon, and will not have cause to demolish the same in its essential parts.

1. *Retrospect of Earlier Philosophers.*—Of the great philosophers, those most in accordance with our principles are Plato and Schelling, Hegel and Schopenhauer, and indeed the two latter represent one-sided extremes (Hegel the logical element, Schopenhauer the Will), whilst Plato and Schelling so far occupy a connecting and intermediate position, that in neither does there exist a complete equilibrium of the two sides, but in Plato the Idea, in Schelling's last system the Will has chief importance.

Plato's best-known and most important principle (cp. the masterly presentation of the Platonic principles in Zeller, Philos. der Griechen, 2 Aufl., ii. 1, pp. 441–471) is the Platonic IDEA, the world of Ideas, or the nature of the many ideas included in the One (the *ἕν*) highest Idea or the Idea absolutely, which he more precisely defines as

the Idea of the good, *i.e.*, the absolute end, and which is to him identical with the Divine Reason. Plato conceives the Idea as in the eternal repose of unchangeable independent Being, and only exceptionally, and with manifest inconsistency, does he here and there (especially, in mythical representations) ascribe to it also efficient operation, an activity.

Since the self-enclosed IDEA would never have reason for going out of itself, it needs a second, equally important principle, the ground of the Heraclitean flow of all things, the moving spring of the world-process.

This second is, accordingly, as opposed to the eternal repose of the Idea, the principle of absolute change, the ever coming and going, and never genuinely being; wherefore he also calls it the relatively non-being (*μὴ ὄν*); but yet it is that which receives the ideas as its content, and ushers them into the whirl of procession. Whilst the Idea is the measured, self-enclosed, that is the measureless, in itself unlimited (*ἄπειρον*); whilst the IDEA (even number) is in itself only qualitatively determined, that brings the element of quantity into the phenomenon. There belongs to it "all that is capable of more or less, of stronger or weaker, and of excess;" wherefore Plato calls it also the "great and little."

Whilst the Idea is the Good, and all the good in the world springs from it, the *ἄπειρον* is the Bad, and the cause of all the bad and evil in the world (Aristot., Metaph. i. 6, end), is that blind Necessity found preexistent by the world-forming Intelligence, that senseless Cause, which could not be perfectly overcome by Reason, that irrational residue that we always get over when we abstract from things all that is image of the IDEA.

From the marriage of the two opposed principles arises the World, which we know through sense-perception. Both principles have this in common, that they are not affected by the change of the phenomenon, but stand above it as transcendent (*χωρισταί*) essences.

The agreement of the Platonic results with our own is obvious; we only need to translate the realm of the *per se* existing IDEAS into that of the unconscious Presentation (that is indeed also conceived by us as intuitive and non-temporal, *i.e.*, eternal) and the intensive principle of absolute change into the Will.

It is also remarkable that Plato asserts that this *ἄπειρον* is in no way cognisable, neither by thought nor by perception, which entirely agrees with our view, that the Will as such is a something for ever inaccessible to Consciousness. [When Plato sometimes characterises the *ἄπειρον* also as *χῶρα, τόπος*, this is certainly just as figurative as the expression *δεξαμενή* (reservoir) and *ἐκμαγεῖον* (soft substance, in which a form, here the Idea, is imprinted), and means, as the expressions *ἐκεῖνο, ἐν ᾧ γίγνεται*, and *φύσις τὰ πάντα σώματα δεχομένη*, testify, nothing more than that wherein the ideas find their stand, place, locality, or room for reception and unfolding, just as he sometimes assigns to the ideal world an intelligible supramundane place (*τόπος νοητός*). Less strict still is the expression *ὕλη* (matter), substituted, not by Plato himself, but by Aristotle and later writers for the *ἄπειρον*.]

Schopenhauer's philosophy is contained in the proposition: Will alone is Thing proper, the Being of the world. Hence it follows that the presented object is only a—manifestly accidental—product of brain, and that there is only so much reason to be found in the whole world as the fortuitously arisen brain chooses to put into it. For what can proceed from an absolutely irrational, senseless, and blind principle but an irrational and senseless world? If there is a trace of *sense* in it, it can only have crept in by *chance!* As little as a *blind* Will can propose to itself ends, so little can it choose and realise fit means to its ends; and thus the conscious intellect can with Schopenhauer in truth appear only as a *parasite* of the Will, that, far removed from being willed by this latter, has rather settled upon it in some incomprehensible fashion, God only knows

whence, like the mildew on the plant. It is obvious that the absolutely irrational, taken as principle, must be very much poorer and infertile than the absolutely rational, the Idea and Thought. There is also needed a remarkable restraint to put up with the absolutely irrational and its poverty as principle. Hence the dilettante colouring, which, with all its intellectual wealth, the philosophising of Schopenhauer possesses, hence the sigh of relief when, in the third book of "The World as Will and Idea," one approaches the great inconsequence of the system, the IDEA.

On the other hand, one cannot sufficiently admire and praise the wisdom of the Unconscious, that it created so confined a genius, to show posterity what can and what cannot be achieved with that principle in its isolation. The one-sided elaboration of this principle was in the genetic course of development of philosophy just as necessary as the pointing of the opposite extreme in Hegel.

How closely the two philosophers are connected is rendered evident by the undesigned coincidence that the principal works of both philosophers appeared in the year 1818, when one at the same time recalls the utterance of Hegel (xv. p. 619), "Where several philosophers synchronously appear, they will represent different aspects of a single whole."

As certainly as Schopenhauer was incapable of comprehending Hegel, so certainly must Hegel, if he had known him, have shrugged his shoulders over Schopenhauer; both stood so far from one another, that every point of contact was wanting for mutual recognition.

If Kant's Criticism was compelled to decline every attempt at a theoretical metaphysic, and Fichte begins the positive metaphysical evolution of the most recent philosophy with the dialectic treatment of self-consciousness, Hegel sums up this development till the close of the first third of the century, in that he receives from Schelling the principle which till then had been its more or less

unconscious moment: the IDEA alone is the Being of the world; logic is consequently ontology; the dialectic self-movement of the concept is the world-process. This principle is, as compared with the complete poverty of the Schopenhauerian, the absolutely rich; for all that the world is, it is indeed through the IDEA; something may be done with it, therefore, and it is not to be wondered at that it produced four systems when its antipode exhausted itself in one.

Hegel in his logic measured the Platonic realm of the *per se* existing IDEA: he tried to surprise the Idea in the process of its eternal self-deliverance from barest being, and thus far his principle was within its right. But when the realm of the *per se* existing Idea had been traversed in all directions, the principle reached its limits; for though the Idea was omnipotent in its own sphere, one thing remained unattainable by it, the *res, reality;* "for real is just that which cannot be created by mere thought" (Schelling, i. 3, p. 364).

The principle, however, though one-sided, was regarded as all-inclusive, and had to be worked out in this one-sidedness, in order to show here, too, distinctly how far it extends and how far not. On the other hand, however, it lay pre-indicated in the dialectic movement, that the logical IDEA, after it had exhausted itself on its own ground, must, with dialectical necessity, demand the other of itself, or the negative of itself, and this could only be —the alogical.

With this plain acknowledgment, however, the Logical would have had to renounce its absolute sovereignty, would have had to acknowledge and admit an equally authorised principle, that the truth is found in and reality depends once on the conflict and time union of these last and highest contrasts. Then, however, logic would also have had to declare that that Alogical is only accidentally, namely, looked at only from *its own* point of view, the negative, but in truth, from a higher point of view, the

positive, which first of all realises the Logical, whereas without this positive it is, with its whole stock of ideas, *equal to nothing*.

This demand upon absolute Idealism all at once to declare its own principle negative was for man—at least for that man who had carried it to its height—too much. Certainly Hegel allows here and there the feeling to break through that the negative of the logical element deserves notice and makes possible the passage of the Idea into actuality, but he suppresses the stirrings of this feeling in their origin, only not to approach too near his dear IDEA. He tries to comply with the imperative compulsion to do justice to the alogical element, everywhere thrusting itself on the observer in the world, by preposterously drawing the alogical self-contradiction *into* the logical, in that he gives to his dialectical method (intended to be at once ideal- and real-dialectical) inner contradiction as an integral element of its process; whereas in truth the contradiction of the logical can always only be kindled by the existing logical not posited by it. But now even Hegel himself observes that, on the one hand, he does not thereby exhaust the demands of the actual as regards their alogical character, and that, on the other hand, he therewith burdens his logical IDEA with the responsibility for things which it cannot bear without losing its character of the logical. Accordingly, he takes refuge in his category of the Contingent, which must always bear the brunt when the details of a phenomenon withdraw themselves, or even only appear to withdraw, from explanation through the principle of the logical IDEA. But the contingent as little as self-contradiction has a place within the logical principle and within the "What" of the world determined by it; for the logical principle is only determined logically, *i.e.*, necessarily; and therewith the contingent is simply excluded from it (and relegated to the sphere of the alogical). But just this compulsion, *in addition* to the

self-contradiction already drawn into the logical, to have recourse to the category of the *contingent* ought to have shown Hegel that, after abstracting all that is logically posited in phenomena, there is really only an *alogical residue*, and that there must therefore be an alogical *beside* the logical, not merely *in* the same. With this recognition Hegel would, however, at once have got quit of the motive which had urged him to credit the inconsistency of an alogical *in the* logical, *i.e.*, he would have been able to refine his inherently contradictory dialectical process into a consistent logical process, which the alogical only underlies as impelling moment of the process.

Thus much is universally recognised, the relation of logic to the Philosophy of Nature is in Hegel himself obscure and obliterated. From consistently carrying out his *principle*, and (with Michelet) maintaining that Nature can only be called externalised logic, or logic in its *alterity*, so far as the moments of the dialectic process united in logic have *fallen asunder*, Hegel is protected by a certain instinctive timidity which teaches him that with the consistent carrying out of his principle he sins against his own *method*, which unconditionally demands the alogical as the equally authorised negation of the logical idea; but he is again deterred from satisfying this demand by the consequences of that step, which manifestly destroy his own principle, that the IDEA is the sole substance.

This contradiction explains why the transition from the Idea to Nature, on all occasions when Hegel mentions it (*e.g.*, "Phänomenologie," p. 610; "Logik," Bd. ii. p. 399–400; "Encyclopädie," Bd. i. § 43 and § 244), is dealt with in an unusually aphoristic manner, frequently changed in new editions, and, moreover, dressed up in unsuitable and figurative expressions (sacrifice, unfolding, alienation, dismission, reflection of the Idea, &c.) The difference on this point has first clearly revealed itself in the divisions of the Hegelian school.

Let us bestow one more glance upon the question how much Hegel felt in silence the necessity of the alogical as counterpoise of the logical. At the close of the larger "Logic" he says of the absolute Idea, that, enclosed in the sphere of pure thought, it is *still* logical; whence it is to be concluded that its emergence from this into another sphere must be the passage into the no longer logical, *i.e.*, into the *alogical.*

In the "Phänomenologie," p. 610, he says, "Knowledge knows not only itself, but also the *negative of itself*, or its limit." Here, indeed, we might be inclined to suppose that the non-logical must be intended by this negative; but he again entirely weakens the effect by declaring this "*knowing* its own limit" to be *sufficient* for sacrifice or alienation. In the "Logic," vol. ii. p. 400, he further says, "Because the pure idea of knowing is so far enclosed in subjectivity, it is IMPULSE *to abolish this.*" Here he feels even that the going beyond the Idea can only be an affair of the Will. Altogether impossible, however, is the thought that this "*willing* of the Idea to emerge from the Idea" can come from itself, from the eternal repose of its being-for-self, which must rather be considered equivalent to the *absolutely self-sufficient peace,* the untroubled self-enclosed *contentment.*

Not only would it be *incomprehensible* how the Idea could of its own accord come to precipitate its eternal purity into the vortex of the real process, but it would be the height of absurdity if it, that encloses all knowledge in itself, willed to sacrifice its blessed peace of non-temporal eternal calm without *external compulsion,* in order to fall a prey to the torment of the process, the unblessedness of volition, the misery of real existence. No, not absolute Reason itself can all at once become irrational, but the irrational must be a *second* or other lying outside Reason.

If it lay in the *nature* of the logical to pass out of itself into the alogical, this occurrence would be necessary and

eternal, and one could never speak of a conclusion of the process, of a redemption.

It is also indeed only the *negative* relative determination (relative, namely, to the logical Idea) of that opposite of the Idea to be the alogical; its *positive* determination, however, is this, to be principle of change, origin of reality, *will;* and when Hegel in the above passage suddenly throws in this determination to be impulse, it is quite clear indeed that he has procured it purely from the empirical need of explaining the reality of Nature.

But this is also, in fact, the *only possible way* to come to the knowledge of the Will. *A priori* one could *at the most* only know *the Idea* and all that follows from the Idea; the existence of the *Will*, however, is, at all events, only to be concluded *a posteriori*. For every *a priori* purely logical or purely rational philosophy can only assert *ideal relations*, but not *real existences ;* it can at most say, "If something is, it *must* be *thus*," but it can never show *that* something is; this only experience can do, *i.e.*, the *conflict* with the extant will (existence) in the *perception* of consciousness. This answers quite to the circumstance that the Idea only determines the "*What*" of things, but the Will their "That;" thus the Idea can also only so far *comprehend* things as it *determines* them, therefore never their real existence.

This necessary step in philosophy, which Hegel had been unable to take, Schelling accomplished[1] in his last system, when, as indicated in Chap. vii. C., he perceived the purely logical character of previous philosophy, declared it to be negative, and in opposition to it raised the demand for a positive philosophy beginning with the immemorial being only to be known through experience. (Cp. Schelling's "Critique of the Hegelian Philosophy," in i. 10, pp. 126 to 164, especially pp. 146 and 151–157; further, ii. 3, fourth and fifth lectures.)

[1] Compare my memoir serving as a necessary complement and elucidation of this whole chapter, "Schelling's positive Philosophie als Einheit von Hegel und Schopenhauer," Berlin, Otto Löwenstein, 1869.

So far as Schelling's deductions are critical and preparatory they are excellent, but as soon as he begins to deliver his positive philosophy itself he becomes weak. wavers between an explanatory argumentative procedure a dialectic method and the sudden and unmotived introduction of new leading concepts, to lose himself soon in the shoals of a mystical theogony and the details of Christian theology. This is simply due to the circumstance that, to preserve consistency with his own past, he becomes unfaithful to his better knowledge, that the principle of positive philosophy is only to be gained *a posteriori* from experience, accordingly by the *inductive* path.

[Because Schopenhauer in the main (*e.g.*, W. as W. and I., 2d Book, and "On the Will in Nature") proceeds inductively, he accomplishes so much more as regards this problem, although he is not particularly clear about his method, and why it is the only correct one.]

Nevertheless Schelling's last system (unity of positive and negative philosophy) has a high value, in that it embraces the principle of Hegel (the IDEA) and that of Schopenhauer (the Will) as co-ordinate, equally authorised and equally indispensable sides of the one principle (cp. i. 10, 242–243; i. 8, 328). Schelling very decidedly sees in that "*extralogical* nature of existence" (ii. 3, 95), in that "incomprehensible basis of reality" (i. 7, 360), the Will. *That* something is is only perceived by the resistance which it opposes; the only thing capable of resistance, however, is the Will (ii. 3, 206). It is therefore the Will that accords its *That* to the whole world and to every single thing; the Idea can only determine the *What*. In his "Treatise on the Essence of Human Freedom," that appeared in 1809 (thus long before the writings of Schopenhauer), he said (Werke, i. 7, p. 350), "There is in the highest and last resort no other being at all than volition. Volition is original being, and to this alone are adapted all its predicates—groundlessness, eternity, independence of time, self-affirmation. All philosophy only aims at

finding this highest term." And in his "anthropological scheme" (i. 10, p. 289) one finds, "1. *Will* is the proper spiritual *substance* of man, the ground of everything, the *originally* matter-producing, the *only thing* in man, the *cause of being.*"

In contrast to this he declares in the same place the *understanding* to be "the not *creating*, but *regulating, limiting, giving measure* to the infinite boundless Will."

With this corresponds the principles of the Pythagoreans, the ἄπειρον (unlimited), and the περαῖνον (limiting), or εἰδοποιοῦν (giving form or notion), (i. 10, 243). If the ideal principle is an Understanding in which is no Will (ii. 2, 112; ii. 1, 375, L. 14–16), the real principle is a "Will in which is no Understanding" (i. 7, 359). "All willing, however, must will *somewhat*" (ii. 1, 462), an objectless willing is only = *vague desire,* "the longing that the Eternal One feels for self-deliverance" (i. 7, 359). The *Word* of this longing is, however, the *Presentation*—that Presentation which is at the same time the Understanding (i. 7, 361), or "the ideal principle" (i. 7, 395). In the "utterance of this word" is found the union of the ideal and the real principle from which the existence to be explained arises.

In his later expositions Schelling endeavours to deduce these principles from the concept of Being as the elements of it which cannot be thought away, an undertaking which plainly reveals its infutility by this, that all real progress can only be gained by the reinstatement of the concrete determinations. Here the being-able-to-be (*potentia existendi*) answers to the Will, the purely (*i.e.*, non-potential, idealiter) being to the Idea. On the being-able-to-be he says (ii. 3, pp. 205–206), "But now the being-able-to-be of which we here speak is not conditioned; it is the unconditioned *potentia existendi;* it is that which can pass unconditionally and without further mediation *a potentia ad actum.* But now we know no other passage *a potentia ad actum* than in *volition.* Will in itself is potentiality κατ

ἐξοχήν, willing the act κάτ' ἐξοχήν. The transition *a potentia ad actum* is everywhere only transition from not-willing to willing. The immediately being-able-to-be, therefore, is that which, in order to be, needs nothing but just passing from not-willing to willing. Being consists for it simply in the *willing;* it is in its being nothing *else* than *willing.* No actual being is without an actual willing, however qualified, conceivable." — The being-able-to-be is the Will *per se*, the not yet objected, but only primitive Will, that indeed *can* will (else it would indeed not be Will), but simply does not yet Will; the Will before its manifestation (ii. 3, pp. 212–213).

If this Will is kindled into willing, if it becomes active, it therewith surrenders its freedom, its being-able-not-to-be, and lapses into blind being, like Spinoza's substance. As such, it becomes the " Sinister," " the source of all displeasure and dissatisfaction " (ii. 3, 226).

The purely being or the IDEA is neither potentiality nor act, for act is only that which proceeds from potentiality Schelling calls its state *actus purus.*—I remark here that Schelling endeavours, for the sake of the Christian Trinity, to make his principles and their substantial unity into persons, and for that end to ascribe to each of the three a will of its own, which is altogether absurd. That one may not feel the preposterousness of this too distinctly, he suppresses in his later expositions as far as possible the tenet that the concrete determination of the "purely being" is the " Idea." (See further my essay mentioned above.)——

There is a remarkable passage in Irenæus, i. 12, 1, where the latter is giving an account of Ptolemy. As this same passage proves how early that perception attained distinct expression which declares a creation from the pure Idea to be impossible, I shall set it down here: — πρῶτον γὰρ ἐννοήθη προβαλεῖν, φησὶν, εἶτα ἐθέλησε. . . . τὸ θέλημα τοίνυν δύναμις ἐγένετο τῆς ἐννοίας. ἐνενόει μὲν γὰρ ἡ ἔννοια τὴν προβαλὴν. οὐ μέντοι προβάλλειν αὐτὴ καθ' ἑαυτὴν ἠδύνατο, ἃ ἐνενόει.

ὅτε δὲ ἡ τοῦ θελήματος δύναμις ἐπεγένετο, τότε, ὃ ἐνενόει, προέβαλε. (For first he thought to produce, then he willed.—The Will thus became the power of Thought. For Thought thought indeed the creation, but it could not itself produce from itself what it thought. But when the power of Will was added, then it produced what it thought.)

The essential agreement of our principles with those of the greatest metaphysical systems (Spinoza we still reserve) can only serve to strengthen us in the conviction that we are on the right path. Let us now consider somewhat more minutely each of the principles.——

2. *The Will.*—*Volition* represents the superiority of the real over the ideal. The ideal is the ideal object *per se*, the real is the willed idea of the Idea as content of Will.

Equally diffused with the belief in Matter is the conception of the vulgar Theism, that the *real* is not the *apparition of the will-action itself of the creative Being of the world*, but a dead, arrested product, a *caput mortuum* of a former long-extinct activity of Will, the act of creation, and that the proper representative of this *caput mortuum* is *matter*. From this prepossession we have already, in Chap. vii. C., delivered ourselves, where we saw that there is only the Unconscious and its activity, but no third. As long as this notion of a dead matter was not overcome, there certainly only remained the two ways of apprehending it: either as uncreated eternal substance, with Materialism, or as *caput mortuum* of a former act of creation, however difficult it might be to form a clear idea of such a dead product; but after material substance had been perceived by us to be a chimera, pure matter a system of atomic forces, and the material world an ever-changing *state of equilibrium* of very many *intersecting will-activities* (cp. vol. ii. pp. 241–243), there remained no longer any reason for assuming dead remnants of former productivity, and we now perceived the Real at every

moment of the process to be *present* will-activity, therefore the existence of the world a *continuous act of creation* (cp. vol. ii. pp. 268–269). This is doubtless also the meaning of the "second corollary" at the beginning of Schelling's "Philosophy of Nature" (Werke, i. 3, p. 16): "Nature nowhere exists as product; all the several products in Nature are only apparent products, not the absolute product, in which the absolute activity exhausts itself, and that always *becomes* and ever *is*."

This conception by no means, as might appear at first sight, contradicts the physical axiom that the effect of a once-acting cause persists; for the state newly induced, in which consists the physical effect (*e.g.*, a movement of this or that direction and velocity), certainly persists, *supposing* the object to persist whose state it is, *i.e.*, supposing that this object is continually posited anew.

It is coherent with this view of the persistence of the world as a continuous act of creation that we can no longer regard volition as separated from the act: *volition is itself the act.*

This truth appears clearer in the case of the atomic will, as discussed in Chaps. v. and xi. C. If it appears otherwise in psychology, this is to be explained thus:—

(1.) When act is employed in the wider sense, it must be understood as external activity of the will; if, on the other hand, act is taken in the narrower sense, namely, only as the *intended* mode of efficiency, undoubtedly only that willing is identical with the act *which accomplishes its will*, but not that which indeed does and works, but is impeded in the execution of the deed *in the intended manner* by external unconquerable impediments.

(2.) Only the volition directed to the *present* is identical with the act, a volition directed to the future, however, is also no proper categorical *volition*, but only a hypothetical volition, a *resolution* or an *intention.*

(3.) By act one understands in psychology only a doing of the whole person, but not those movements of

the brain-molecules caused by the Will, which in themselves are not powerful enough to call forth an *external* action of the body, or are hindered by other cerebral vibrations acting in the contrary sense.

Therefore in psychology certainly only the *whole* present volition of the individual, *i.e.*, the resultant of all the simultaneous single wills or desires, is identical with the act, whilst the simultaneous components exhaust their *mutual* action in the brain so far as they do not become act in the resultant. Strictly taken, however, the movement of the cerebral molecules is also a coming of the will into external operation, *i.e.*, an act, and in this sense is also every single desire in the individual an act, only that it is perhaps prevented by other cerebral vibrations from realising itself in its whole possible range; *e.g.*, hunger produces cerebral vibrations in the beggar, that would compel him to stretch out his hand to the bread in the baker's shop; the dread of the theft produces other cerebral vibrations, which prevent this particular movement; but both, the positive as the negative desire, are in act expressed as cerebral vibrations.

"The Will *per se* is potentiality κατ' ἐξοχήν, volition actuality κατ' ἐξοχήν." This declaration of Schelling must certainly be assented to. Thus much is at least universally recognised, that volition is to be regarded as an act dependent on a power, and this potency, this being-able-to-will, of which we know nothing more than this, that it can will, we call Will. Whatever be a being-able-to-will, the possibility must be open to it to be, under certain circumstances, a non-willing,[1] *i.e.*, the notion of the being-able-to-will includes that of the

[1] "To a certain extent it is *a priori* obvious, in common language *self-understood*. that that which now *produces* the phenomenon of the world must also be *capable* of *not doing* this, consequently of *remaining at rest*, or, in other words, that there must also be a συστολη to the present διαστολη. If, now, the former is the phenomenon of the *willing* of life, the other will be the phenomenon of the *non-willing* of the same.--In reply to certain silly objections I remark, that the negation of the will to live *by no means* imports *the annihilation of a sub-*

being able not-to-will, or the being-able-to-will is only a correctly chosen name if that which is denoted by it is at the same time also a being-able not-to-will on occasion. If, namely, the being-able-to-will were deprived of this possibility of not-willing on occasion, it would be a not-being-able not-to-will or being-obliged-to-will, and, indeed, not a being-obliged-to-will conditionally under certain circumstances or for a certain time, but an eternally unalterable being-obliged-to-will. This would, however, upset the notion of the being-able-to-will or of potentiality, and only leave the notion of the absolute groundless willing that wills to all eternity. Superfluous as would be the notion of force in presence of an eternal motion, so *superfluous* would be the notion Will (as potentiality of volition) in presence of an eternal willing; willing would then be non-potential *actus purus*. On this assumption all possibility not only of an individual, but also of a universal redemption, would be cut away; all hope of a cessation of the process (whether intended and striven for, or accomplished according to blind law and fortuitously) would be destroyed. The cheerlessness of such an assumption can of course be for us no argument against its admissibility or probability ; we shall, therefore, in another direction, have to test its validity.

The *eternity* of *willing* conditions the *endlessness* of the

stance, but the mere act of not-willing" (*i.e.*, the negation of the act of volition) ; "*the same* that has hitherto *willed* wills *no longer*. Since we know *Substantial Being*, the *Will* as Thing *per se*, merely in and through the act of willing, we are incompetent to say or conceive what it can further be or do" (this addition "or do" is very inapt), "after it has renounced this acting ; therefore negation is *for us*, who are the phenomenon of willing, a passage into *nothing*" (Schopenhauer, "Parerga," §162). The inactive *Substantial Being* "remaining in repose" is undoubtedly for us, who are at the point of view of actual reality, equal to nothing ; yet we may well try and conceive what it intrinsically is, namely, the *being able* to will and not will. This Schopenhauer overlooked, although properly in the above word "*capable*" (of producing or not producing the world) he has himself enounced it. The quoted passage shows that those adherents of Schopenhauer who conceive the Will as Essential Being obliged to will, and not capable of abstaining from willing, cannot here appeal to their master, but have only modified for the worse his deeper views.

process, and indeed both forwards *and* backwards. In the endlessness of the process forwards there lies no difficulty, because the same is at every moment, at every now, merely ideal, postulated, not real, given. It remains for ever pure problem, posited progression with negation of an end, and therefore never lies under the contradiction of the completed endlessness. On the other hand, the part of the process realised at every moment always succumbs to this. *Thought* can just as easily from the given Now follow the path backwards indefinitely as the path forwards, but that proves nothing at all as regards the *real* process, which pursues its course in an *inverse* direction to this ascent of thought into the past. The infinity that remains an unsatisfiable ideal postulate to regressive thinking is to be complete accomplished result to the forward process; and here occurs the contradiction that an *in*finity (if also only one-sided) is given as finished realisation. Schopenhauer, too, is perfectly clear concerning the impossibility of this (W. a. W. u. V., 3 Aufl. i. p. 592, l. 23–27, and p. 539, l. 9 to the foot), only for our problem this is of no account, because he denies the reality of time, and therewith of the process, and deals with the question of the world's beginning or non-commencement only in the subjectively idealistic sense, where thought just as little finds a limit *in itself* backwards as forwards (ibid., p. 594). The *reality* of the process, however, includes the finiteness of the same backwards, *i.e.*, its beginning before a finite time reckoned from the present moment. The point of commencement of the process (with and through which time begins) is therefore the boundary-point between time and *timeless* eternity; only in the former was the Will willing, in the latter it was accordingly not-willing. It is herewith proved that the willing can under certain circumstances be also a not-willing, whereby at once the necessity is posited of supposing behind the actual willing a being-able-to-will (and not-to-will), a potentiality of willing, a will. Since, on the other side of the commencement

of the process, this potentiality was without actuality, the possibility remains that fresh circumstances may occur where it again becomes a potentiality without actuality, *i.e.*, it is now *possible* that the real process is also finite forwards. (The *necessity* of the future end of the process is not to be proved from the notion of the process or of time, but only from that of *development*, on the assumption that the world-process is development,—as I have shown at the close of the frequently mentioned essay, "Ueber die Umbildung der Hegel'schen Philosophie," in the Ges. Philos. Abhandl., No. ii.)

It follows, then, from the impossibility of a regressive or progressive infinite world-process that volition as such cannot be eternal; that it is not an ultimate capable of and needing no further explanation, but that before its rise there must have been something that was not indeed itself volition but yet contained the power of willing. But this we call the pure will. When we come to this conception from the recognition of the fact that one and the same now wills, now does not will, we have in this conception established the elements of being-able-to-will and being-able-not-to-will. This is, however, to be taken as a contradictory, not as a contrary opposition. A contrary opposition is the counter-struggling of volition split into a positive and a negative part, as we have assumed at the end of the world-process. Here two opposed species of the genus "willing" are given, but the not-willing, of which there is question before the beginning of the process, is the purely privative negation of the genus willing in general; for only when a positive willing is already given can an antagonistic negation arise as actively-negative willing. The being-able-not-to-will is consequently also not, like the being-able-to-will, to be understood as active power, but as merely passive possibility of the intermission of the use of the active power.

The now justified relation of potentiality and act, will

and volition, appears indeed eminently clear and obvious; it becomes, however, again more involved as soon as we direct our glance to the real passage of the pure potentiality (still without actuality) into the act of volition. We know, namely, from Chap. iv. A., that volition can only truly exist when it is definite volition, *i.e.*, when it wills something determinate, and that the determination of that which is willed is an ideal determination, *i.e.*, that volition must have a presentation for its content.

On the other hand, we know, from Chap. i. C., that the Idea cannot of itself become existential,—not pass from non-being into being,—for otherwise it would be potentiality or will, or contain this in itself,—that thus only the Will can give it existence. But here we are caught in a circle. Volition is first to become existential through the presentation and the presentation first through volition. Through the Will *per se*, *i.e.*, so far as it is mere potentiality and *not* actual, certainly no effect (action) can be produced on the Presentation, but the Will can manifestly only act so far as it is not mere potentiality. If now, on the one hand, the Will as pure potentiality cannot act at all, thus also not on the Idea; if, on the other hand, Volition as act *proper* only becomes existential *through* the Idea, and yet the Idea *cannot of itself* become existential, there only remains the hypothesis that the Will acts on the Idea in a condition intermediate as it were between pure potentiality and true act, in which it indeed has already emerged from the latent repose of pure potentiality, thus seems to be actual as compared with the latter, but still has not yet attained to real existence, to complete actuality. This may be considered to be relatively potential. Not as if this intermediate state were intercalated as time-interval between the ante-mundane repose and the real world-process—this is, as we shall see hereafter, impossible—but it represents only the moment of the *initiative*. Any one accustomed to think under the notion Will or faculty of initiation might say that there

is no will at all in his sense within the world-process, since Volition is here continuous state become fatal, in which merely the ideal content is changed, and that only that moment of the initiative determining the elevation of the will for the whole duration of the world-process is the true will-act. Thus much is certain, that of the two, Will and Idea, the initiative can only be ascribed to the former, and that the state of the will at the moment of the initiative is other than it was before the same, and other than it will be when the original impulse has done its duty, and has become full-action by participation of the Idea. As we must consider still more closely this condition of the Will in the initiative (in the "impulse" of Fichte transferred to the absolute), we require a fixed designation for the same and choose the expression "*empty* (*i.e.*, still devoid of content) willing."

Schelling, too, is acquainted with this empty willing. He says (ii. 1, p. 462), "But now a distinction important for all that follows presses on us of itself—of the willing, that is properly objectless, that wills *only itself* (= Sucht), and of the willing, that is filled and remains as product of that first willing."

Empty volition *is* not yet, for it lies still before that actuality and reality which we are accustomed alone to comprehend under the predicate Being; it *is substantive*, however, not merely like the Will *per se*, as pure potentiality, for it is indeed *a consequence* of this, and accordingly is related to it as act. If we desire to apply the right predicate, we can only say: Empty volition *becomes*; becoming is employed in that eminent sense in which it signifies not transition from one form into another, but *into being from absolute not-being* (*pure essence*). Empty willing is the *struggling for being*, which can only attain being if a certain external condition is satisfied. If the will in itself is the will able to will (consequently also able not to will, or *velle et nolle potens*), the empty volition is the will that has decided itself to will

(thus can no longer not-will) the will willing to will indeed, but not yet able to accomplish the willing by itself alone (*velle volens, sed velle non potens*), till the presentation is added, *which* it can will

Empty volition is thus actual so far as it *struggles* after its realisation, but it is not actual so far as it cannot *attain* this realisation of itself without the accession of an external circumstance. As mere form it can only become actually existential when it has attained its *fulfilment;* this fulfilment it can, however, not find in *itself*, because it is *only form* and nothing more. Whilst, therefore, the endeavour of definite volition has the realisation of its content (its assertion against opposite endeavours) for goal, the effort of the empty willing has no other goal than this, to realise itself, itself *as* form, to obtain possession of itself, to be, or, what is the same thing, to will, *i.e.*, *to come to itself.*

Another tendency than this, to emerge from the vacuity of the pure not yet existent form, cannot be at all imagined in the absolutely idealless and blind Will. One might say its content or goal is the negation of its want of content, if this were not self-contradictory and at the same time materially false, so far as by that a notional, *i.e.*, ideal, content was indicated, so that the empty volition would then again have an ideal content, and would be capable of existence through this alone. The relation is rather a positive one; the potentiality contains in itself the formal element of the act as abstract being, not yet posited, and the initiative strives also to *posit* it as that which it intrinsically is, *i.e.*, as pure form of the act, which, however, never could succeed as long as the other equally indispensable, namely, material moment of the act is wanting. Thus it remains, so far as the latter is not added to the empty volition, in an unceasing *preparedness to spring,* without ever coming to the point; it remains at the stage of a becoming, from which nothing becomes, in which nothing emerges. The willing-to-will *pines* for fulfilment,

and yet the form of the will cannot be realised till it has grasped a content; as soon and as far as it has done this, volition is again no longer *empty* volition, no longer willing *to will*, but *definite* willing, willing *something*. The state of pure volition is therefore an eternal pining for fulfilment, which can only be given to it through the idea, *i.e.*, it is absolute *unblessedness*, pain without pleasure, even without pause. So far as empty volition is only *momentary* impulse, that immediately, at the same moment at which it emerges, grasps the idea as content (identical with it, therefore not able to withdraw from it), so far it does not attain realiter to the separate existence of such an ante-mundane unblessedness, although the latter is the condition of the origin of the world, thus *natura prius*. But undoubtedly it also attains realiter an *extra*-mundane unblessedness of empty willing *beside* the satisfied world-will. For the Will is potentially *infinite*, and in the same sense its initiative, empty volition, is infinite. The Idea, however, is *finite* in its notion (although *in itself* capable of infinite perfection), so that also only a finite part of empty volition can be satisfied by it (and only a finite world can arise). There remains, therefore, an infinite excess of the hungry vacant willing besides and beyond the satisfied world-will, which in fact, until the return of the total will to pure potentiality, falls irretrievably into unblessedness. The reader may remember that, according to Chap. iii. C., every non-satisfaction of a will *eo ipso* begets consciousness. The *sole* content of this single extra-mundane consciousness is, as we saw above (vol. ii. pp. 257–258), not exactly an idea, but absolute pain and unblessedness, whilst in the world (in the fulfilled volition) there exists only a relative pain, *i.e.*, an excess of pain over pleasure.

Will and Presentation, both of which were before the commencement of the real process, something pre-existent, or, as Schelling says, "super-existent," are therefore united in the (partial) fulfilment of empty volition through the (whole) idea into fulfilled volition or the willed idea,

wherewith the act is attained as real existence. We may call this combination of willing and picturing to form existing filled volition, which, regarded from the side of the will, is an *educing* and *seizing* of the idea, by the same right from the side of the presentation a *surrendering* to the will; for devotion also is an altogether *passive* fact which demands no positive activity, but only *excludes* all negative activity, *all resistance.* It appears here very clearly that Will and Idea are related to one another as *male* and *female*, for the truly feminine never goes beyond an unresisting passive devotion. If we would carry the image further, the Idea is before being (as purely being) in the state of blessed innocence; but the Will, that has put itself into the state of unblessedness through elevation from pure potentiality into empty volition, drags the Presentation or Idea with it into the whirlpool of being and the torment of the process, and the Idea gives itself up to it, sacrifices its maiden innocence, as it were, for the sake of its final redemption, that it cannot find in itself. In that the Idea is not at all capable of an active resistance to the Will, and that the blind roving Will cannot at all avoid seizing this, because it is the only thing seizable, and lies before its nose, as it were; in a word, in that the essential identity of the Will and the Idea makes a non-concurrence of both, after the impulse has once been given, impossible, nothing is changed in that relation of the two to one another. What was before an unintelligible fact is now elevated into the sphere of necessity, and thereby at the same time the proof of the above assertion is given that an interval of empty volition between the moment of the initiative and the real world-process is impossible, because the Idea necessarily sees itself in the first moment of the initiative of the will dragged into the vortex of the process, so that the beginning of the *vague* time posited by empty volitive is likewise the commencement of the time *determined* by the Idea. From this *embrace* of the two super-existent

principles, of the being-able-to-be that decides to be and of the purely being is therefore *being engendered;* as we already know, it has from the father its "That," from the mother its "What and How."

We saw that the Will is *insatiable;* however much it has it always wants more, for it is *potentially infinite;* and yet its satisfaction can never be infinite, because a satisfied or completed infinity would be a realised contradiction. Strictly it is therefore quite indifferent whether that piece of the empty volition which has found a fulfilment in the Idea is great or small, *i.e.*, whether the world is great or small (in the intensive sense), for the satisfied volition will always be related to empty volition, as something finite to an infinite, which is possible because it is related to it as actuality to potentiality. Since accordingly empty volition is and remains infinite, it is also altogether indifferent for the infinite absolute unblessedness of this empty volition whether, besides its infinite unblessedness mitigated by no pleasure, however slight, a world of pain and pleasure exists or not.

We certainly detect none of that extra-mundane unblessedness of the void willingly, for we belong *to the world*, to the *fulfilled* willing. Lastly, we can by no means adopt the opinion that the will furnished with an ideal content, *e.g.*, the atomic forces, is not obliged to endure considerable non-satisfactions and *painful* sensations, although we can say with certainty that *before* the origin of the organic consciousness it can feel no satisfaction as *pleasure*. According to all this the infinite unblessedness would be perpetuated if the possibility of a radical redemption were not given.

This possibility exists, however, as we know, in the emancipation of the Idea from the Will through consciousness. The latter certainly demands in the course of the process still greater sacrifices; for although it indeed enables pleasure to be felt, it also renders pain the more oppressive through reflection, so that the intra-mundane

pain, as we have seen, does not fall, but rises with the enhancement of consciousness on the whole; but through the final redemption this enhancement of pain becomes purposive. This ultimate redemption is perfectly compatible with our principles, for although at the end of the world only the *satisfied* will is directly brought to turn round, yet this is the only actual and existential will, and is consequently related *as regards its real power* to the mere empty willing struggling for existence as an *actual* to a *non-actual*, as a something to a nothing, although of perfectly homogeneous nature. If, then, the existential volition suddenly becomes nothing through an existential willing-not-to-will, the willing in this manner itself determines itself to the willing-no-more, in that the whole volition parting into two equal and opposite directions swallows up itself, thus as a matter of course also the empty willing-to-will (not-being-able-to-will) ceases, and the return to the *pure* independent potentiality is accomplished, the Will is again what it was *before* all volition, will able to will and not to will;—for the *being able* to will is certainly not in any way to be taken from it.

To wit, there is in the Unconscious neither an experience nor a memory; the Unconscious can therefore also *not* be *altered* through the accomplished world-process; it can neither have acquired anything that it did not possess before, nor have lost anything formerly possessed; it can neither have filled its former ante-mundane emptiness with the memory of the wealth of the process passed through nor receive any instruction through the experience had in the same, to guard itself henceforward from the repetition of its former *faux pas* (for for all this reminiscence and memory, nay, even reflection would be required); in a word, it is in no other situation than before the first commencement of that process. Is this so, however, and in the impossibility of maintaining a memory in the Unconscious must the flattering illusion of

the hope of final peace rejoicing perhaps in its finality after the close of the world-process be set aside as a pious delusion (cp. pp. 89–90), the possibility undoubtedly remains open that the potentiality of the Will decides once again to will, whence then the possibility immediately follows that the world-process may often have played the same tune before. Let us pause for a moment in order to determine the degree of the probability.

The Will able to will and not-will, or the potentiality which can determine itself to being or not, is the absolutely free. The Idea is by its logical nature condemned to a logical necessity; volition is the potentiality that has lost itself, which has forfeited its liberty to be able *not-to-will;* only potentiality before the act is free, is the determined and determinable by *no reason,* that abyss that is itself the abyss of all. As little as its freedom is limited outwardly so little is it inwardly; it only becomes *limited* inwardly at the moment when it is also *annihilated,*—when the potentiality itself *externalises* itself. We see at once that this absolute freedom is the stupidest thing that one can imagine; which is quite in accordance with the circumstance that it is only conceivable in the Alogical.

If, now, there is nothing at all that determines volition or non-volition, it is mathematically speaking *accidental* whether at this moment the potentiality wills or does not will, *i.e.*, the probability = ½. Only when the probability of each of the possible cases is = ½, only where absolute chance comes into play, only then is absolute freedom conceivable. Freedom and chance are, as absolute notions, notions, *i.e.*, deprived of all relations, identical. In the same manner Schelling conceives the relation when he says (ii. 1, p. 464), "Volition, that is for us the commencement of another world posited outside the idea . . . is the primitively accidental,—the primitive chance itself."

Now, were the potentiality *in time,* the probability would, as time is infinite, be = 1, *i.e.*, certainty, that

the potentiality resolves *in time* once again to become actual; but, as the potentiality is *outside* time, which indeed the actual first creates, and this extra-temporal eternity is not at all distinguished in temporal reference from the moment (as great and small are not distinguished as regards colour), so is also the probability that the potentiality determines itself to volition in its extra-temporal eternity equal to this, that it determines itself thereto instantaneously, *i.e.*, $= \frac{1}{2}$. It follows from this that the redemption from volition can be regarded as no final one, but that it only reduces the pain of volition and being from the probability 1 (which it has during the world-process) to the probability $\frac{1}{2}$, thus always affords a gain not to be despised in practice.

Of course, the probability of future events cannot be influenced by the past, consequently the co-efficient of probability of $\frac{1}{2}$ for the repeated emergence of the willing from potentiality cannot thereby be diminished, that the latter had already once before resolved to will, but when one *a priori* considers the probability that the emergence of volition from potentiality repeat itself with the whole world-process n times, it is manifestly $= \frac{1}{2^n}$ just as the *a priori* probability of throwing heads n times in succession with a coin.

Since with the end of one world-process time ceases till the beginning of the next there is *no time-pause;* but the state of affairs is precisely the same as if the potentiality had at the *moment of the annihilation* of its former act externalised itself anew into act. It is, however, clear that n increasing, the probability $\frac{1}{2^n}$ becomes so small that it is practically sufficient for consolation.

3. *The Presentation or Idea.*—Let us now pass to the other super-existent, *Presentation,* and once more take particular notice of its relation to the Platonic idea.

Aristotle calls the Platonic ideas *οὐσίαι*, a term that Plato himself to our knowledge never employed, which at any rate with Aristotle means something altogether different from what we now understand by "substance," and which would be best translated by "entities." For Plato himself one can hardly assert more than that he conceived the Ideas as objective existences, and denied that they are only in the mind, that they are mere knowledge of some person; further, indeed, he did not go in the discussion of their nature, but he is contented with opposing them to the perishable flux of the sensible world as the truly being (*ὄντως ὄν*), as the independent being (*ὂν αὐτὸ καθ' αὐτό*), and the unchangeable (*οὐδέποτε οὐδαμῇ οὐδαμῶς ἀλλοίωσιν οὐδεμίαν ἐνδεχόμενον*). If Aristotle strives after more precise definition by calling the Ideas *οὐσίαι*, the later Platonists and the Neo-Platonic school on the other hand conceived the Ideas as *eternal thoughts of the Deity*.

Both interpretations it is probable were in the mind of Plato himself; for although the eternal thoughts of the Deity cannot be substances in the modern sense of the phrase, yet it is no contradiction at all to call them *οὐσίαι* in the Aristotelian sense, just because they are *eternal* thoughts of the Deity, therefore have an essential being for ever self-identical.

Certainly Plato would never have allowed that they are a *knowledge*, that they are *conscious* thoughts of Deity, for thereby they would be altogether deprived of their objectivity, which was the chief point to him. When Plato identifies the Idea with the Divine Reason, this can only mean that, by a very explicable license of speech, he identified the essential being with its sole eternal activity.

It is clear, therefore, that we have to understand by the Platonic ideas *eternal unconscious thoughts* (of an impersonal Being), where the "eternal" does not mean an endless duration, but that which is out of time, elevated beyond all time. For us too the unconscious presentation is an extra-temporal, unconscious, intuitive Thought, which

represents to consciousness an altogether objective essentiality. The main difference between the Platonic and our view lies in the meaning which he assigns to the word "being," namely, whilst after the precedent of Parmenides, he regards *unchangeableness* as the criterion of true being, unchangeableness appears now to us *indifferent* for being, but on the contrary we demand unconditionally that true being should have *reality*.

Thus Plato comes to declare the Idea to have being in the most proper sense, whereas we are obliged to regard it as somewhat non-being, of which more hereafter.

With Plato there takes place such an interpenetration in the abstract realm of ideas, that all are contained in One Idea. I, too, have repeatedly pointed to the mutual interpenetration of the presentations in the Unconscious, and their coinherence (*e.g.*, of end and means), a state that simply follows from the non-temporal character of the unconscious presentation, where the moments of thought separated in time in discursive thought must necessarily be found *in* one another. But whereas Plato denotes the coinherence of the whole world of ideas in the peculiar Pythagorean abstract fashion as the One, and then determines this One materially as the Good, we shall not be able to rest content with any of these determinations. Since the notion of the Good in the ethical sense, as already often remarked, must not be referred to the All-One existence, which Plato too seems to feel, we shall be obliged to interpret the good itself in the Platonic sense as the higher logical end, as the final end determining all the intermediate ends and means, that the all-wise World-Reason assigns to itself. Thus understood, we too may appropriate the Platonic unity of the Idea. The Idea actualised in every moment of the world-process is one embracing in itself all the separate ideas to be simultaneously realised as integral elements, and the uniting point of this collective Idea is the self-identical world-end unchanged from the beginning to the end of the process, or true end of the world-process, which indeed is only

implicitly thought in each single moment, but which teleologically determines the whole content of the intuition of each instant as means to it. The end is posited by the Idea itself, and the determination of the special matter of intuition of the All-One is again logically determined by the end; accordingly the total content of the intuition of the All-One is from the beginning to the end of the process pure self-determination of the Idea.

We can, however, not stop here, but must further ask, why does the Idea determine itself in this way and not otherwise? If this self-determination is a necessary one, following from its own nature, as we must assume, the question is properly only how to perceive the peculiar nature of the Idea, in consequence of which it sees itself compelled to determine itself thus and not otherwise. When we have perceived this inmost nature of the Idea, we possess that from which the whole content of the Idea necessarily follows in virtue of its pre-formed self-determination; we have gained the most precise expression for the principle that we hitherto have called Idea, but which in strictness is only Idea when and so far as it has entered into being, *i.e.*, become content of a will. The required determination for the inmost nature of the Idea now can no longer be a material one, for it must indeed also hold good beyond all ideal content (before the beginning of the world-process); the matrix of the unfolding of the whole material wealth of the world of ideas, the ground of the self-determination of the Idea to this and no other content, can only be a formal, no longer a material principle; it must be the same immanent formal principle of the Idea that is manifested in its self-determination of the ideal means to the ideal end, *i.e.*, the *logical* formal principle.

By logic was formerly, and in part still is, understood theory of thinking in the widest extent; but in order to understand what is here meant by the logical, we must first of all abstract from that too general conception all

that is specifically psychological and anthropological, *e.g.*, the special *doctrine of method*, which provides a guide to research in the various departments of human inquiry, and the *theory of knowledge*, which investigates the problem whether and how consciousness may transgress its immanent sphere and attain to being *per se*. We must further remove from it the framework of Ontology, which the human consciousness has contrived with the help of the categories for the better understanding of existence, but which itself is only an implicit part of the material *content* of the Idea, and only *seems* to be formal because it is abstract. Finally, we must deduct all that appertains only to the discursive form of the manifestation of the logical in consciousness, and not to the logical as such, thus the diremption of the logically connected moments, which may be likened to the exhibition of an illuminated point as a shining line in a quickly rotating mirror. It is the logical formal principle that causes the moments successively related in the discursive-logical thought-process of consciousness (*e.g.*, the terms of a conclusion) to stand to one another in actual *logical* relation; but that the related moments are discursively sundered is due only to the nature of conscious thought, not to the logical principle, which is ever inherently unconscious, and even in the discursively logical process of consciousness is interposed between every pair of terms as a timeless unconscious factor, so that it is not to be wondered at, that it is also manifested as such in the implicit intuitive thinking of the unconscious Idea and its self-determination (cp. Chap. vii. B., vol. i. pp. 314–316). The logical principle is in theological language the divine reason; in metaphysical, the very simplest primitive reason, from which everything rational is derived. As primitive reason it is the formal regulator of the material self-determination of the Idea; it is generally the formal aspect of the unconscious intuition of the All-One, whose material aspect is the Idea in

the narrower sense. Lastly, it is the *matrix* from which the not yet existing Idea is unfolded at the beginning of the world-process.

If we would now more precisely specify what the Logical or the primitive Reason is, not for the Idea, but in itself, we shall be obliged to keep to the old enouncement of the logical formal principle under the form of the laws of identity and contradiction, *i.e.*, not to the discursive expression of these laws, but to the logical element contained in them. The two are one, and only the positive and negative expression of the same thing, but at the same time also the positive and negative mode of manifestation of the same principle. The logical formal principle in the shape of the law of identity is absolutely unproductive (the A = A leads to nothing); it has been the error of all logistic philosophers that they regarded the logical principle as positively creative, and even imagined it possible to attain, by its means, to a positive content of the world, to a positive final aim of the same. All positive teleology is therefore a still-born child, because the positive end must be a creation of the logical principle in the positive sense, but the latter is in the positive form altogether uncreative, nay, of itself could never attain to a process, but must persist in pure identity with itself.

Not so the negative aspect, although here certainly the logical formal principle can only be manifested if a non-logical is present, which the logical can oppose with its negation. The inner conflict of the void Will that wills willing and yet cannot will, that aims at satisfaction and reaches dissatisfaction, is such a non-logical; the volition itself is the negation of the Law of Identity, in that it annuls persistence in identity, and demands that A (pure potentiality) do not remain A, but change into B (the act); it is therefore the negation of the positively logical, and therewith challenges the logical formal principle to manifestation in a nega-

tive sense.[1] The logical negates the negation of itself: it says, "The contradiction (namely, to me, the logical) is not to be;" and in saying that it proposes to itself an end, namely, the abolition of the alogical, of volition. Certainly this end, that follows from the negative mode of manifestation of the logical principle, is itself only negative, directed against the genuinely positive in volition, that only from the standpoint of the logical appears relatively negative. In the same sense will also, from the point of view of the logical, the end — the suppression of volition—appear as negation of the negation of itself, *i.e.*, as double negation, *i.e.*, as something relatively positive, but from the point of view of the alogical the end remains a purely negative one, as is confirmed by the result, reduction to nought. Accordingly we too must hold by the expression of a negative final end, in contrast to the impossible positive final end (in the sense of an emanation from the logical principle in its positive form), and shall have to lay stress on the fact that here teleology altogether, in the last resort, has only been saved by the absurdity of all search after a positive end and the untenability of all *positive* teleology being apprehended through the principle of the logical itself,

[1] It can hardly be necessary to call to mind that the determination of the "Alogical" and "Logical," here deduced from the nature of the two principles "Will" and "unconscious intuitive Idea," had already been proved by the inductive path. The chapter on the Misery of Existence, namely, had inductively proved that the existence of this world is worse than would be its non-existence; that therefore the "That" of the world, or its existence, must owe its origin to an irrational or alogical principle, but at the same time also that this irrational principle, which proceeds to make the world into a wretched one, is *volition*. On the other hand, it has been shown by all the preceding investigations that the "What" of the world is contrived most judiciously and wisely, and thereby points to the action of a wise and logical principle, which we have perceived in its manifestation to be unconscious intuitive *presentation*. It seemed to me expedient to show here once more that the contrary course also leads to the understanding of the Whole, *i.e.*, that from the very nature of the pyschical elementary functions "willing and perceiving," expanded into attributes of the All-One, follows at once the alogical and logical character of the same, because in this manner the organic connection of all the terms in the traversed circle of thought becomes far more conspicuous.

and by the adoption of a negative teleology, *i.e.*, a teleology with absolutely negative end, but which from the point of view of logical speculation is, on account of the double negation contained in it, just as positive as a directly positive teleology could ever be.

We see, then, that we may and must go beyond Plato's determination of the One Idea as the Good or the end, to the higher determination of the ideal principle as the formal-logical. The eternity of the Ideas is not to be understood, as if they one and all, just as they are afterwards realised, lay from the very first and for ever boxed up in the ideal, and only waited for the Will to realise them; for then the infinite empty volition must realise the whole mass of Ideas at a stroke, which would only yield an eternal chaos, but no development. Rather must the Ideas always unfold themselves by self-determination from their formal principle only in the extent in which they are to be realised by the Will in the course of development; and this extent is determined by the constant final purpose on the one hand, and by the stage of development of the world at any time attained on the other. The eternity of the Ideas is therefore not to be understood as eternal, even if only ideal, *existence*, but only as eternal pre-formation or possibility. The logical is in itself to be regarded as a purely formal principle, which is stimulated to the ideal productivity of its content only by the other of itself, the alogical. We may say there is no *pure* logic, *i.e.*, no manifestation of the logical purely in and by itself; there is only *applied* logic, *i.e.*, manifestation of the logical in and by its other, the alogical. Only through *applied* logic is the ideal principle that is *primo loco* pure formal principle filled with an ideal content (first the end, and then the succession of means to attain this end).

Thus understood, our ideal principle also essentially agrees with that of Hegel (for the Absolute Idea of Hegel is nothing more than that to which the empty husk of

thought, the notion of pure being identical with nothing has determined itself in virtue of its immanent logical formal principle in the progress of the evolution itself), except that one has in the word "Absolute Idea" an empty sign, which is only filled when the whole development has been gone through; whilst the more familiar "logical" denotes the formal moment of the self-determination in the extra-temporal ideal evolution.

The process in the Idea *per se* is, as Hegel himself says, an *eternal, i.e., extra-temporal* one, consequently it is also strictly again no process but an eternal result, a being-in-one of all the moments mutually determined to all eternity; and this being-in-one of the moments determining one another *appears* to us only as process when we artificially sunder them in discursive thought. For this reason I cannot allow that the logical determination of that which at every moment emerges into actuality takes place through dialectic in the Hegelian sense, because in the sphere of the ultra-temporal eternity where we might at any rate speak of a peaceful juxtaposition and intermingling of contradictory representations. no process is possible than that which necessarily presupposes time, and on the other hand, again, in the piece of the Absolute Idea emerging at a particular moment into reality the main requirement of the Hegelian dialectic, the existence of contradiction, is wanting,—quite apart from this, that a dialectic process in the Hegelian sense can only take place between concepts, these crutches of discursive thinking, whereas all unconscious thinking occurs in concrete intuitions.

When Plato, who, properly speaking, had no idea of laws of Nature, assumed also transcendent ideas of everything of which he could abstract common notions, this was a childish point of view, which, as Aristotle reports at a later period, excited suspicion even in his own mind.

We know now that all inorganic Nature is a consequence of the atomic forces acting according to their

immanent laws (which are comprised in their Idea), and only with the origin of organisms is there an accession of genuinely new Ideas. We know also that as all the Ideas receive their determination from the Logical, and in strictness are altogether nothing but applications of the logical to given cases, the idea of the world-process is the *application of the logical to empty volition.* With Hegel the latter is represented by that which forms the commencing and starting-point of logic, pure being, identical with nothing; for this is the only form under which the *impulse* to self-alienation foreign to the logical can exhibit itself to the logical principle.

We have seen that the Idea first becomes existent when the Will grasps it as content, and consequently realises it; but what then is it previously? At all events, *not yet existent,* a super-existent like the Will or empty volition. As the Will in volition passes out of *itself* (as potentiality), so is the Idea put outside *itself* (as super-existent) by the Will. This is the radical difference between the two: the Will *itself* ejects itself; the Idea *is* translated into being by the Will (as one in the condition of not-being).

Could the Idea pass of itself into being, it would indeed be *potentiality of being,*—would therefore be itself Will. But, on the other hand, the Idea not yet translated into being can also not *absolutely not be* (*οὐκ εἶναι*), else the Will could also make nothing of *it;* it can only be a not-yet-being in a special sense (*μὴ ὄν*). Now, if it is to be neither active being nor potentiality of being, nor also absolutely nothing, what then remains? *Language wants* an appropriate word for the designation of this concept. One might be inclined to call this state *latent being,* which, even when it is made manifest by the Will, yet never becomes free being, but always only being as ideal content of a being *in actu.* From the *actus* the latent being of the Idea before its seizure by the Will is distinguished by this, that by the word *actus,* on the one hand,

one involuntarily always thinks of a preceding potentiality that is here wanting, and, on the other hand, of *an actual* being, an efficient activity, whose strict contrary is that still, calm, latent being, altogether self-enclosed, never spontaneously going out of itself. The word *actus* therefore is at most suitable so far as this state like the *actus forms a contrast* to potentiality, but a contrast that is of quite a *different* kind from that of *actus.* Schelling seeks to make this relation of the concepts evident by terming this state *actus purus*, *i.e.*, an *actus* that is pure or free from potentiality, or translates this *μὴ ὄν*, "the purely (*i.e.*, non-potential) being." It is, however, clear that these expressions are by no means happy, since, in spite of the most satisfactory elucidations, they must always leave the impression of a "wooden iron." This defect of expression, which arises through a vain struggling with the limitations of language, however, by no means prejudices the result, that the Idea before being sucked into the vortex of being by the Will elevated to being must be thought in a relatively non-existent state, which, elevated above the real Being arising from the co-operation of Will and Idea (*i.e.*, super-existent), must be thought in this super-existent sense as a non-potential (*i.e.*, also unsubstantial), hidden, still, pure being. Inevitably as Schelling was led to this definition so was Hegel also obliged to give to the Idea as first and most original determination that of pure being, which, in comparison with a later filled being, is as good as nothing, except that in Hegel's panlogism by this determination the alogical is at the same time smuggled in as moment of the initiative of the process.—As we called the Will before its elevation pure potentiality or pure *faculty,* we may describe the Idea before its transportation into being the realm of pure *possibility.* Both expressions agree in determining their object by a reference to something future; the difference, however, is that this relation is in "faculty" an *active,* in "*possibility*" a *passive* one. The

Will as *per se* simply and purely formal admits of no distinction; in the Idea, however, we have to distinguish first the ideal *principle* as formal moment of self-determination, and, secondly, the Idea as the infinite wealth of the possible forms of development which it hides in its bosom. So far as the latter collectively are predestined by the "purely being" formal element of the logical for the possible case of their birth, they stand implicitly as mere ideal possibilities precisely in the same eternal logical relation which is revealed on their entrance into being. But so far as they form in a special sense the realm of pure possibility, in an altogether different sense to the formal-logical principle underlying them, from which they are unfolded when once their hour is come, so far can the principle of latent (or, according to Schelling, pure) being appertaining to their *matrix* never be attributed to them, but must be reserved for the Idea as formal-logical principle of the ideal self-unfolding.

We have seen that it is in truth the Will, more precisely empty volition, which entrudes the Idea out of its purely independent being into a being with external relations, in that it seizes it once for all as its content, but that the Idea *as* fulfilment of the Will determines and develops itself in virtue of its logical formal moment.

This proposition holds good from the first moment when the Idea is externalised by the Will to the moment when Being is extinguished with the turning back of the Will; at every moment the sum of presentations which forms the content of the Will is a definite one, and indeed that definite, phase of the evolutionary process of the One World-Idea whose inner multiplicity it composes, and it is, since this evolutionary process of the World-Idea is a purely logical one, altogether and exclusively *logically* determined, or, what comes to the same thing, *posited* as regards its "What" with *logical necessity*. But since, as we know, the "What" of the world is at any moment only the realised content of the Will, the "What" of the world is at every moment of

the world-process determined by logical necessity. Because it is logically necessary (for the main aim) that there be development (in order to the genesis and enhancement of consciousness), because the necessity of evolution includes the necessity of time, thus time and the change of content in time belongs to the logically necessary content of the Idea itself, therefore the realisation also of this content is presented as a definite process in time (cp. what was said regarding Space, vol. ii. p. 181).

The above proposition holds for every single event just as much as for the whole, for each individual forms indeed an integral part of the whole, and is as such an integral part *determined* by the whole, since each several existence and event is, as regards its "What," only and wholly Idea, therefore a link in the inner organic manifold of the one and whole World-Idea at any time. If now the *total content* of the world-idea at every moment is *logically* determined throughout (namely, on the one hand, by the stable final end, on the other hand by the phase of development of the process attained at the last moment), and if each single *part* is determined by the *whole*, *each single* existence and happening is also at every moment *logically* determined and conditioned. If, *e.g.*, this liberated stone falls, the falling takes place with this or that velocity for no other reason than because it is *logically* necessary under these circumstances, because it would be illogical if at this moment something else happened to the stone. Certainly *that* the stone altogether can still fall at this moment, that it is still there to fall, that the earth is still there to draw it to itself, this depends on the persistence of the Will; for did the Will cease at the moment to will, therefore the world to be, it would *no longer be logical* that the stone should fall.

We see here the two elements which go to make up causality. *That* the stone which I now let go falls, depends on the continuance of the willing beyond this moment; but that it *falls*, and falls indeed with such and

such velocity, depends on this, that it is *logical* that it is thus, and would be illogical if it were otherwise. That in general anything comes to pass, that the effect *follows*, depends on the Will; that the effect, *if* it follows, follows *with necessity as this* and no other, depends on the Logical. That indirectly the cause is determinative of the effect is quite clear, for *only under those circumstances* which collectively are termed "cause" is it logical that this effect follows.

According to this, causality is another name for logical necessity, that attains actuality through the Will.

Having thus perceived purpose to be the positive side of the logical, we shall now be able unconditionally to subscribe the proposition of Leibniz, "*causæ efficientes pendent a causis finalibus;*" but we also know that it only expresses a part of the truth, that the *whole* world-process is in its content only a logical process, but in its existence a continual act of Will. Only by this, that phenomenal equally with final causality is comprehended as logical necessity; only by this, that the logical necessity of the process is admitted in all its phases, and physical causation and final causality (we may add as a third "motivation") are perceived to be only different *projections*, in which universal determination, regarded under different points of view, presents itself; only, by this, I say, has at bottom a universal teleological apprehension of the world-process become possible. For if every moment of the process is to be altogether and without residue a link in the chain of physical causation, and each at the same time altogether and without residue a link in the chain of final causality, this is only possible under one of the following three conditions: either causation and final causality have their identity in a *higher unity*, of which they form merely different aspects of the apprehension through the discursive thinking of man, or both chains stand in a *pre-established harmony*, or the present link in the chain of causation only *accidentally* agrees with the present link in the chain of final causes (as one and the same event). Chance would once and a way be

possible, but not in constant repetition; the pre-established harmony is miracle or the renunciation of comprehension; thus only the first case remains, if, with Spinoza, one will not entirely abandon final causality.

The notion of logical necessity is the superordinate of causation, final causality, and motivation; all necessity, causal, final, and deterministic (by motive), is *only* necessity therefore because it is *logical* necessity. It is *false* to maintain, with Kant and so many moderns, that there is no other than a *subjectivistic* notion of necessity, but it is *true* that all happening and existence as such would be *mere factness* devoid of all necessity if the *formal-logical moment did not import* the compulsion of necessity into objective reality, *precisely* as we are conscious of it in our subjective thinking. But whoever concedes the objective reality of the world (*i.e.*, independent of the consciousness of the subject) *can* no longer deny the necessity of the operation of the laws of Nature, unless he commits the absurdity of assuming that quality of matter-of-factness, which the abstraction of empirically exceptionless *rules* affords and imposes upon us, to be fortuitous. Since the probability of such a continually recurring accidental order which compels us to formulate abstract laws, is infinitely small, the probability that an objective necessity answers to and underlies the subjectively abstracted rule borders on certainty. Certain as is the existence of an objective necessity in the world, so certain is it that everything happening in the world is logically determined and conditioned, simply because the notion of necessity is only tenable as *logical* necessity. Thus and only thus are the difficulties resolved which the concept of causality has caused from Hume to Kirchmann.

4. *The Identical Substance of both Attributes.*—We now approach the question whether the Idea is attribute or substance, whether it is the thought of a Being before, behind, or above it, or whether it in its turn is itself *an*

ultimate? We have seen that Plato did not definitely decide in favour of any of these views. Hegel asserts that the Concept is sole substance, that the Idea is God, whilst Schelling denies the self-movement of the Concept postulated by Hegel (Werke, i. 10, p. 132): "There lies therefore in the asserted necessary movement a double illusion: (1.) In that for thought the *Notion* is substituted, and *this* is represented as something moving itself, and yet the Notion would of itself lie perfectly immovable if it were not the notion of a thinking subject, *i.e.*, if it were not thought; (2.) In that one imagines thought is only impelled by an inherent necessity, whilst it yet manifestly has a *goal* towards which it strives."

In the first place I would remark, that the difference of the two views, although important enough theoretically, yet is hardly so important as it might appear at the first glance, because we find ourselves here already in a region of the super-existent, where our conceptions finally leave us in the lurch; and even when they appear to us sufficient, are indeed hardly able to cover that transcendent objectivity in the way in which metaphysics only too easily imagines.

Nevertheless thus much stands firm, that of whatever kind this or the final metaphysical principles of a system may be, our thinking always finds itself under the inevitable compulsion to conceive the same either as functioning substances, or, however, to assume a substance behind them as whose attributes they appear, and which is functional as active subject when the principles become operative. Thus we cannot think the IDEA of Hegel or the unconscious intuitive Perception otherwise than as either itself raised to substance, or, however, as supported by another substance as attribute. We have likewise in the Will of Schopenhauer only the choice of substantialising the Will itself or of regarding it as attribute of a substance lying behind it. Our thinking is absolutely unable to think a function without active subject, which at the same time must, as ultimate principle resting upon itself, be metaphy-

sical substance. We cannot think perception without a perceiving, volition without a willing subject; and the only question is, whether we will think and can think as perceiving subject the Idea itself, as willing subject the Will itself, or whether we find ourselves caused to assume a support of the attributes of willing and perceiving lying behind them. This necessity of thought goes even behind the functions as such, and tracks the principles into the condition of their super-existent calm and concealment. Even there we must distinguish in the " being-able-to-be " and " purely being" between *that which* can be or purely is, and the *states* of the being-able-to-be, or purely being. The necessity of this separation in our thinking is not to be disputed. The only question is whether one is to ignore it as merely subjective, or whether one must allow it to be transcendent and objective, a question which is hardly to be decided *a priori*.

Hegel would have had to do the former if he had dealt with this alternative; the latter is the point of view of Schelling. In the former case one speaks of the *whole* Idea or the *whole* Will irrespective of this distinction as Substance; in the latter, the subject that is functional or that supports the state is posited as substance, the function or the state as Attribute. In the former case, the *Idea* or the Will is the *whole*, therefore *substance* and attribute *at once;* in the latter, they are in the narrower sense only the function, or that which is state, thus only *attribute*, and presuppose a substance behind themselves as their functioning substance or their substrate.

The difference only becomes important when we have to do with a duality of principles and with their mutual relation. Hegel and Schopenhauer, each of whom only allows one of the two principles, have logically no reason, to make that separation, since it would be *needless* for them; but as the *need of the unity* of the two principles, Idea and Will, makes itself felt, is the carrying out of that division called for. Although, namely, the functions or states of

ideation and volition are different, still this does not prevent our positing the substantial element of the two principles, or the subject of both functions, *that which* knows and *that which* wills, as *one and the same*. So far as the substantial identity and only functional difference of the two principles is recognised, we have *reached Spinoza's one substance with two attributes.*

The indispensable requirement of the essential or substantial identity of Will and Idea is thus at the same time decisive also for the question as to the substantial or attributive character of the Idea by itself and of the Will by itself. That requirement is altogether inevitable. If Will and Presentation were separate substances, the possibility of their influence on one another would be as little obvious as the possibility of a real action on one another of distinct individuals is conceivable according to the principles of a consistent pluralism (cp. above, vol. ii. p. 230 ff.) It would not be apparent how the one is to enter into relation with the other, how the Will can grasp the logical as its content, how the logical can find itself compelled to react against a foreign alogical not appertaining to it at all and its anti-rational doings. If, on the contrary, it is *one and the same* essence which is these two, *i.e.*, of which and in which they are attributes, the intimate connection of both is so much *matter of course* that its contrary even becomes impossible. The same that is the one is also the other; the willer is the perceiver, and the perceiver is the willer,—only the willing and the perceiving is different, not the willer and the perceiver. Volition is non-rational, but the reason of the willer is just the idea; perception is without energy, but the power of the perceiver is simply volition. It is no contrary opposition of opposed tendencies of one and the same activity, for such would annul each other, or at best allow the excess of the *one* quantitatively superior tendency to subsist; it is also no negatively contradictory opposition between two terms, of which only the one is positive, the other, however, negative

or privative as regards the first, but it is a positively contradictory opposition, in which each term is positive in a quite different sphere, thus certainly, in relation to the other, is not what the other is. Such a contrast involves also no inconsistency; the Will and the Logical, or power and wisdom in the Absolute, contradict one another as little as, say, the redness and the perfume in a rose or goodness and truthfulness in a man. There are not two drawers in the Unconscious, in one of which lies the irrational Will, in the other the powerless Idea, but they are two poles of a magnet with opposite qualities, on whose opposition the world rests in its unity; as in a magnet we do not succeed in isolating the north magnetic function from the south magnetic, but with continued division of the magnet the double activity or polarity itself appears bound to the smallest pieces, so also are the two attributes of the Unconscious inseparably united, in each single function of the All-One however insignificant, as matter and form, as ideal and realising moment. It is not a blind man who carries a lame man showing the way, but it is a single whole and sound one, that certainly, however, cannot see with the legs and walk with the eyes.

If Will and Presentation were separate substances, an insurmountable dualism would pervade the world, and leave its mark in the soul of the individual — but of such a dualism there is nowhere any trace. Monism, towards which, as we have seen, all tends, would therewith be absolutely annulled, and a pure dualism put in its place. Now at length is the secret dread of this division, which was a disturbing element, especially in Chap. vii. C., removed by our recognising the same as a dualism only of *attributes*, which does *not* prejudice the unity of the substance, but which cannot possibly be done away with when in general an existence is to be explained. A pure and absolute *one* is equally a self-contradictory conception with a pure and absolute *many*, as Plato long ago showed in his " Parmenides." To be possible, whether as concept or as existent, the unity of the One must be

unity of an inner manifoldness or plurality, which plurality is most simply duality. The inner duality is accordingly an indispensable condition of the All-One on the side of its existence, or, in other words: untenable as is every absolute dualism, so indispensable a supposition is a relative immanent dualism for the truth of absolute Monism.

This becomes still clearer if we consider the necessity of the explanation of the *process.* Could even a non-plural *One* exist, it yet could only exist as absolutely rigid, identically self-persistent, and we should never reach the possibility of a process. To explain a process we necessarily need a peace-disturber in the rigid repose of the All-One, that seizes the initiative in order to interrupt the same. But even such moment of the initiative alone would yield no actual process, but would at the most reach the mere velleity of the process (empty volition). That an actual process may come to pass there must be, beside the *commencing* factor, at least *one* more that encounters the former, and indeed in the double sense of the term of succouring and opposing; for only from the co-operation and counteraction of at least two moments can a process result. The second only helps the first to attain that which it wills to attain with its initiative, the process, as we saw more fully above; on the other hand, however, only two factors are required, because from the standpoint of the second the first is *a something that should not be,* against which the second feels itself compelled by its nature to turn, in order to make that which ought not to be again the not-being. In this sense Schelling also says (i. 10, 247), "There would altogether be no process if there were not something which *should not be,* or which at least was *in a way in which* it should not be" (namely, the being-able-to-will *as* blindly willing, or, as Schelling usually says, the being-able-to-be *as* blindly being).

That something ought not to be as it is can always only be said from a certain point of view, and indeed only from a point of view opposed to that of the being in question;

thus, *e.g.*, it can only be said from the point of view of the Logical that the Alogical as such should not *be*, so that in the last resort the turning-against-willing of the Logical, and therewith the possibility of the process, rests on this, that a logical opposition exists between the two attributes, *i.e.*, that the one is not what the other is (the Will not logical, and the Idea not endowed with Will). Only from the logical opposition of the two in the One can a process arise. Not, indeed, that this logical opposition forthwith and immediately becomes a real antinomy, in the sense in which we apprehend the contradiction between the divided will-acts of the All-One as a real conflict, for to this end there is wanting, as we know, to the logical Idea self-dependence and independence of the Will, as well as all energy of action; rather this opposition remains eminently a logical one, and only indirectly leads to a real opposition, in that a part of the Will is in the course of the process brought by means of the emancipation of the conscious Idea to turn as negative volition against the positive volition, until with continued enhancement of consciousness the negative part of volition is so far augmented as to be able to paralyse the positive, and thus to hurl back that which ought not to be into non-being. That which forms the real opposition is accordingly always volition with opposite content, and Will and Presentation as such never come into real opposition, but remain in the logical opposition appertaining to them by nature. But undoubtedly the halves of volition turned against one another bear the stamp of this opposition, because in positive volition the (still unconscious) presentation, while bound to surrender itself to the will-to-live, serves to bring the latter to the point where the conscious presentation in pessimistic self-knowledge comprehends the folly of the Will, and now motives the willing of the willing-no-longer.

The exclusion of such a misunderstanding seemed desirable in order not to render difficult, or to prevent,

by this *erroneous* assumption of a *real* conflict between the attributes, the understanding of the inseparable *unity* of both attributes, as we have just expounded it.

Precisely in the same manner does Schelling apprehend the Dualism in Monism (Werke, ii. 3, p. 218): "The identity must rather be taken in the strictest sense as *substantial* identity. The meaning is not that potential being and pure being are *severally* conceived as *independent* being, *i.e.*, as Substance (for Substance is what exists in independence of aught else). They are *not themselves Substance*, but only *determinations of the One super-actual.* The meaning, therefore, is not that there is potential being *and* pure being, but the meaning is, that the very Same, *i.e.*, *the same Substance*, is in its unity, and without thereby becoming twain, potential being and pure being."

One might call this Substance identical in Will and Presentation, this individual Single Being, which only supports those abstract generalities, "the absolute subject," as that "which can be related to nothing else, and to which all else is related as Attribute" (Schelling, ii. 1, 318); but unfortunately the word Subject is so ambiguous that one may easily call forth misunderstandings by its employment (*e.g.*, if we should take it here as correlated to an object). On the other hand, if one is entitled to call anything original the *Absolute Spirit*, assuredly every reader not prepossessed by Hegel's arbitrary limitation of the word Spirit to its manifestation in the restricted form of consciousness will allow that it must be this unity of Will and Perception, of Power and Wisdom, this One Substance, that everywhere both wills and perceives,—as we have hitherto called it, the Unconscious. The One "super-existent, which is all that is," we may therefore now define as pure, unconscious (impersonal, but indivisible, therefore individual) *Spirit*, according to which our Monism may be more precisely characterised as spiritualistic Monism. Herewith have we reached the apex of the pyramid, and have advanced the elucidation of the

concept "the Unconscious," provisionally outlined in I. 3 to cognition of the first order.

To come to an understanding with Spinoza we have, lastly, still to emphasise the following points of difference. It would be a great error if we tried to conceive the relation of our substance to our attributes in the way in which this has been done by many interpreters of Spinoza, namely, as if the former were the *potentiality* of the Attributes, and these were its *actus* or activities. With regard to the notion of Potentiality we are quite out of danger, for the potentiality of Being or Willing is itself *the One* of the Attributes, and the other we have expressly defined as the pure Being, which has issued from *no* Potentiality. To neither of these, therefore, can Substance stand in the relation of Potentiality, and neither is *Actus*, which proceeded from a Potentiality. This is a cardinal difference from Spinoza, with whom manifestly Substance appears as the potentiality of the Attributes. But we may agree with Spinoza in this, that *Existence* is only to be found in the ejected (*ἐξιστάμενον* or *ἐξεσταμένον*) Mode; to Substance as such, with all its attributes, however, only *subsistence* appertains (which underlies the eject, *subsistit*).

The second difference lies in the definition of that one of the two Attributes which Spinoza, after the precedent of Des Cartes, calls *Extension*. But now Thought and Extension are no contrasts, for Extension is indeed *also in Thought*. Only Thought and *real* Extension, which is intended by Spinoza, form a contrast. However, between the concepts Thought and real Extension, the opposite again is not between "Thought" and "Extension," but between "Thought" and "Real" or "Ideal and Real;" it is not Extension that makes Reality, but it itself must first be made real, in order to form a contrast with Thought. The second attribute of Spinoza must therefore be that which *makes real*, not merely Extension, but also all the rest of the Ideal; but this is no other than Will. Then first, when for Extension we put Will, does Spinoza's Metaphysic

become what it should be, but then also the apex of our pyramid coincides with the One Substance mystically postulated by Spinoza.

Beyond that which is the Substrate of everything Existing no Philosophy can go. Here we stand at the inherently insoluble *problem of problems.* The earth rests on the elephant, the elephant stands on the tortoise, and the tortoise ? ? The ability to become rigid before the problem of groundless subsistence, as before a Gorgon's head, is the true touchstone of metaphysical talent. The *contentment* with the regress to God-Creator, or a surrogate of the same, is the proper mark of speculative indolence. An attempted dialectic self-generation of the first beginning would be the acme of a reason-killing sophistic. For Conception, Nothing and Something are at least equally warranted, but only for conception, which always presupposes the subsistence of Thought. But whence this subsistence preceding the Concept? If nothing at all were, no World, no Process, and no Substance, as also no one to philosophically marvel, there would be nothing wonderful in that—it would be eminently natural, and there would be no problem to solve; but that there is a self-subsistent, an ultimate, on which everything depends (were this only the Hegelian Concept itself), that is so unfathomably wonderful, so absolutely alogical and senseless, that poor little man, after he has once realised this last of all problems, and has beaten a long time with the arms of his reason impotently at the bars of this prison of the not-non-being, completely ceases to wonder at the details of the world-contrivance, pretty much as an illuminated modern scientist, meeting on an aerial journey beyond the clouds, undertaken for scientific purposes, with a fairy castle of the spirits of the air, might, in measureless astonishment at the mere existence of this castle, hardly find breath enough to wonder at the interior arrangements. It is for this metaphysical problem also absolutely indifferent what we regard as ultimate, whether a self-conscious God or Spinoza's Sub-

stance, the Notion or the Will, the Subjective Dream or Matter—it is all the same; there remains a self-subsisting Somewhat with its peculiar constitution as an ultimate. This Somewhat, with its constitution, however, how comes it to subsist, and to subsist with such characters, since from Nothing nothing can come? A self-conscious God must, in despair at the insolubility of this riddle of his eternal subsistence, go mad, or, if it were possible, turn suicide! The nature of the human mind certainly stands in its obtuseness far too low not soon to grow accustomed even to the highest of the marvels surrounding it, and at last to regard the exact *formulating* of the problem, not its *solution*, as its office; and yet it is well as it is that the philosophical pathos only flames up in moments of exaltation, *in order*, viz., *that* the subordinate problems may receive their due of wonder.

5. *The Possibility of Metaphysical Knowledge.*—Here our course ends; we will, however, in conclusion, pay some attention to the question *whether and how, from the standpoint of the Philosophy of the Unconscious, metaphysical cognition is possible.*

This question is not unimportant, for often the most considerable metaphysical systems, that explain the whole world in a coherent and even acceptable fashion, stand puzzled before the problem how, according to their own presuppositions, the cognition of metaphysical connection maintained by them is possible. At this place, of course, a Theory of Knowledge cannot be expected, but only a sketch of the point of view at which we find ourselves as regards that question.

The Græco-Roman philosophy issued in Scepticism because it did not succeed in finding a criterion of Truth, and consequently despaired of a settlement of the question whether Knowledge is possible. The dogmatism of modern philosophy was in like manner broken by Hume, whose pitiless criticism Kant carried still further and deeper.

But at the same time Kant was on the other side the genius who initiated the phase of evolution of the most recent philosophy. Whilst Greek philosophy had uselessly tormented itself with the impossible demand to find in knowledge itself a mark that should impress on it the stamp of truth, Kant went hypothetically to work, and asked "Apart from the question, whether there is a true cognition, of what sort must the metaphysical conditions be if such is to be possible?"

All the most recent philosophy, with the exception of Schelling's last system, stands with more or less consciousness at this point of view: *the conditions of the possibility of knowing form their metaphysic.* As first and fundamental condition of the possibility of all knowledge, the homogeneity of thought and its transcendent-objective object may be asserted, since with a *heterogeneity* of thought and thing absolutely no *harmony* of the two, *i.e.*, truth, and still less a consciousness of this agreement, *i.e.*, cognition, is possible. Without this assumption only two standpoints are possible: that of naïve Realism and that of Subjective Idealism. The former fails to see that everything that I can express in words and reach with my thoughts can always only be my own thoughts, but never a reality lying beyond the same; that thought can never denude itself of the character of thought, and erroneously confuses thought itself or the thinkable (intelligible) with that which lies beyond thought (trans-intelligible), which as a truly imaginary quantity is *believed* by thinking when it *thinks its* thoughts. The second standpoint corrects this error (as regards the things *per se* still remaining for Kant), but it commits the other fault of *denying* that which is placed beyond the limit of thinking, because it is *unattainable* to thinking, and therewith annihilates the possibility of all knowledge, in that thinking is lowered to a dream without object and therewith without truth. This is opposed by the Philosophy of Identity, in that it supposes the transcendent element in cognition to be consub-

stantial with thinking, and urges with justice "*that on no other possible supposition is a knowledge conceivable*" (Schelling, i. 6, 138), because on no other supposition is a harmony of thought with its presumed (transcendent) object possible. This identity of Thought and Being thus quite indirectly established (of which the ancients had hardly an inkling) is henceforth the unshakable fundamental proposition of all philosophy, is however variously apprehended. In Schelling's "System of Identity" it is, as with Leibniz, a species of pre-established harmony, in virtue of which the individual consciousness unfolds its subjective world from its limited point of view according to the same forms, categories, and complete determinations as the world beyond is developed, although this harmony more easily finds a foundation in the Monism of the one absolute intelligence or reason of Schelling than in the Monadology of Leibniz. Hegel overcomes the difficulty by resolving everything into the one dialectical process of Idea, in which no one thing opposes another as alien or distinct (as with Schelling and Leibniz the "windowless" monads do), but each posits itself with regard to each in all possible kinds of relations (among which are also Causality and Reciprocity). If Hegel thus, on the one hand, makes a great advance beyond Schelling, on the other hand he takes a step backward when, in the great confusion of the general dialectic, he completely obliterates the distinction between thought and its object, the distinction between subjective thought and that which is beyond it, by systematically confounding the point of view of the individual and the absolute thinking, of conscious and unconscious thinking. To render these distinctions perfectly clear, to separate these points of view anew and strictly, I took for my task. To me the Beyond of conscious thinking is unconscious thinking; it is an unattainable Beyond, for consciousness cannot think unconsciously; if it thinks "unconscious thinking," *it thinks its own* conscious thought and yet *supposes* something else, precisely

as when it thinks "the thing that has being." (Cp. "Das Ding an sich und seine Beschaffenheit," pp. 74–76.) But yet the hither as the further side is *thinking*, and so far as this consubstantiality reaches, reacts the possibility of an agreement, truth, cognition. It is to be observed here, first, that the Beyond of conscious thinking lies just as much *within* as *without* one's own individuality; secondly, that the concrete agreement of the thing with the conscious thought of the same is effected by a double causality—between the thing and the unconscious part of the individual (to which also the body belongs), and between this and one's consciousness; and thirdly, that the causal constraint felt by consciousness and referred to a transcendent reality and the distinction made between the same and the logical necessity of purely ideal relations is only intelligible on the supposition, that from both sides a *Will* enters into the ideal conflict and makes this a *real* one. This Will is, no matter whether one contemplates an alien will or one's own, no longer merely beyond *consciousness* (like unconscious thinking), but it is beyond the *ideal altogether*, both conscious and unconscious thinking. That it nevertheless gives rise to far fewer difficulties than unconscious thinking is due to this, that it *does not at all affect* the ideal content, but only impresses on it the meaning of reality, otherwise however leaves the perceived object unchanged.

According to these considerations it can no longer be doubtful how the Philosophy of the Unconscious is related to those contrasts: Thought and Thing, *mens* and *ens*, *ratio* and *res*, Spirit and Nature, Ideal and Real, Subjective and Objective. We know that Being is a product of the non-logical and logical, of Will and Representation; that its "That" is posited by volition, its "What," however, is the ideational content of that volition, thus not merely *homogeneous* with the Idea, but, because itself Idea, *identical* in the strictest sense of the term, but that the Real is distinguished from the Ideal by that which lends reality to the Ideal, by the Will. Thus also Spirit and

Nature are no longer different, for the *original* unconscious spirit is that in its independent being which in the actual combination of its moments is Nature, and as *result* of the natural process conscious spirit, or spirit in the narrower (Hegelian) sense of the term. But as concerns the Subjective or Objective, these are altogether relative conceptions, which *first* appear *with the origin of consciousness,* for in the unconscious Volition and the unconscious Presentation these have no place; the Unconscious is exalted above those contrasts, since its thinking is by no means subjective, but *for us* objective, in truth, however, transcendent-absolute. We can therefore also in strictness not say that the Unconscious *is* the Absolute Subject, but only that it is what alone can *become* Subject, just as it is what alone can become Object, simply because there is nothing beside the Unconscious: and *thus understood,* we may certainly *call* it the absolute Subject and the absolute Object, notwithstanding that as Unconscious it is exalted above the opposition of the Subjective and Objective.

We have seen that consciousness only occurs on a collision of different directions of the Will, of these then each is the objective for the other, and each the subjective in opposition to the other objective to it, presupposing that both directions of the Will occupy relations, which do not prevent the possibility of the arising of consciousness by their lying beneath the threshold of consciousness.

If, *e.g.*, one supposes the atoms above the threshold of consciousness, the atomic force A would become objective to the atomic force B, and conversely; the atomic force A, on the other hand, itself become, in contrast to the objectivity of B, subjective and conversely. Thus would the Unconscious become in two ways conscious in A and B, both objectively and subjectively.——

After having thus seen that the union of all the above-named contrasts results from our principles, we come back to the question as to the possibility of knowledge. It was

then proved by the most recent philosophy that a system resting on the sublation of those contrasts is the only true one, *in case* there be at all a genuine cognition; but *whether* there be such, of this all proof was wanting after as before. It was in assuming the same as *dogmatic*, as the pre-Kantian dogmatism, nay, the possibility did not even occur to it, that any one with justice may deny and must deny the possibility of an absolute knowing (Reason) till proof thereof has been obtained (cp. Schelling, ii. 3, p. 74).

Its whole philosophising rested, therefore, on a condition that perfectly hovered in the air, the whole was a hypothetical philosophising from an unproved supposition.

Accordingly our latest philosophy likewise could consistently only dissolve in Scepticism. That this Scepticism is in the younger philosophically educated world (so far as it has surmounted an immature Dogmatism) the prevailing one, can hardly be disputed; that the same has received no scientifically consistent elaboration (Aenesidemus only attacks *Kant*) lies only in this, that the palpable results of the exact sciences and the practical interests now absorbing all attention are altogether unfavourable to Philosophy, in that they too much distract theoretical thinking and discourage the pursuit of it to its last consequences. To proceed further, there are manifestly only two ways: either we must, in order to establish the hypothetical result of the Philosophy of Identity, *directly* prove that a genuine cognition exists,—yet with such an endeavour one would only relapse into the inherently vain efforts of the Greeks (cp. Kant's Werke v. Roskr, ii. p. 62–63), or we must really avail ourselves of the most recent progress, and approach the problem at the *opposite* end to the Greeks, *i.e.*, we must by a path altogether different from that hitherto attempted, accessible and evident to all, *directly* prove the material identity of Thought and Being. This path can only be

that traversed by us, the successive inductive ascent from experience.

Now certainly the proof led by this path must itself be a knowledge, if it is to prove anything; we might therefore think that we have merely only in appearance got a step further, but in reality, just as before, stand with our feet in the air. This is, however, not so; rather the state of the case is as follows:—

Formerly it was said: "*If* there is a knowledge, it is material identity of Thought and Being;" go beyond this simple conditional proposition we cannot.

Now we say: "(1) If there is a knowledge, it must rest on material identity of Thought and Being, therefore also be to be found in immediate experience (affection of thought by being) and the logically correct inferences from the same; (2) the inferences from experience establish the material identity of Thought and Being; (3) from this identity follows the possibility of knowledge."

Herewith we have entered into a closed circle, where each term conditions the others, no matter with which we begin, whilst before we had only a conditional proposition without back- and breast-work as it were. There accordingly undoubtedly remains still the *possibility* that this whole circle of psychological and metaphysical conditions is a *merely subjective appearance,* which consciousness is compelled to form for itself by an inexplicable necessity; that there is therefore in fact still *no* knowledge and no identity of Thought and Being, and the circle of mutually supporting relations built thereon a mere chimera. For certainly the transcendent and not merely subjective existence of that circle cannot in all strictness prove to be absolute truth, just because consciousness is condemned to this circle, and can never assume a standpoint outside the same, from which the nature of that circle could be judged, for the single reason that the possibility of cognition cannot be known without knowledge.

Although then the absolute impossibility of the contrary

cannot be proved, yet by that circle the probability that there is both knowledge as well as identity of Thought and Being has become very much greater than it was before in that simple conditional proposition, devoid of all support both in front and behind ; it has become so great that the possibility of the contrary is no longer practically of account. Scepticism is, therefore, not annihilated, but acknowledged to be theoretically warranted, as it is also in fact the *preservative* against all relapse into the *dogmatic narrowness* of belief in absolute knowledge, *i.e.*, in the attainableness of an *absolute truth* as the only worthy office of the science of sciences, philosophy. But whilst we must thus acknowledge absolute scepticism to have for all time and notwithstanding any possible advance of science to a justifiable existence, we have at the same time reduced its *range* to such a degree that its importance disappears, for the practice not only of life, but also of science.

If we contemplate this result concerning the possibility of knowledge in general, it agrees remarkably with that which must by degrees be on all sides granted for the knowledge of every special truth (so far as it is not of a *formal* logical kind), that there is for us no truth, *i.e.*, probability of the value 1, but only more or less considerable probability, which never reaches 1, and that we must be perfectly content when in our cognition we reach a degree of probability which robs the possibility of the contrary of practical importance (cp. also Introductory, I. b.)

APPENDIX.

THE PHYSIOLOGY OF THE NERVE-CENTRES.

I.

Introduction.—The deep obscurity in which the functions of the central organs of the nervous system were wrapt until a few generations ago, has in the course of the present century been cleared up at many points, and in the last decennium these points, illuminated by the light of knowledge, have so increased that a certain comprehension of the facts as a connected whole is now within our reach. However conscious the possessors of this knowledge may still be of its incompleteness and superficiality, it must yet be welcomed as a first foundation of the physiology of the central organs, and is already in a position to furnish hints in different directions, which are of value partly for the psychological, partly for the natural-philosophical elaboration of experience.

Unfortunately, until a short time ago there existed no work which collected into a clear whole, and thereby made accessible to wider circles the communications with respect to this particular branch of physiology that are scattered in scientific books and journals. Perhaps *Maudsley* in the first physiological part of his "Physiology and Pathology of Mind" had come nearest to the mark; however, the second edition of this work bears the remote date 1868, and cannot therefore contain the results of the most recent progress of science.[1] On the other hand, the "Grundzüge der physiologischen Psychologie" of Professor *Wilhelm Wundt*

[1] [Since the original was stereotyped another edition has appeared: *The Physiology of Mind*, being the first part of a third edition, revised, enlarged, and in great part rewritten, of *The Physiology and Pathology of Mind*, 1876. *The Pathology of Mind*, being the third edition of the second part of *The Physiology and Pathology of Mind*, recast, enlarged, and rewritten, 1879.—TR.]

(Leipzig: Engelmann, 1873 and 1874) fulfil the function of a compendium in an eminent degree, and along with a physiology of the sense-preceptions (in the 2d and 3d secs.) offer substantially a physiology of the nervous system, and specially of its central organs (in the 1st, 4th, and 5th secs.) To be sure this compendium, just on account of the wealth and the concentration of its contents, is more a book for study and for reference than for the general reader, and the sobriety of the elaboration of the mass of material amounts almost to dryness, by the author avoiding with almost painful anxiety every flight of thought beyond the empirical data. Of unfavourable influence in this direction was evidently the influence of the dry and unfruitful Herbartian philosophy, by which Wundt is unmistakably affected, notwithstanding his frequent criticism of the fundamental views of Herbart. The doctrine of the emotions and impulses (in chap. xx.) loses almost all value by this dependence on Herbart and by the retention of his error, "That it is not the emotions which govern the ideas, but that the emotions rather spring from the ideas themselves" (p. 818), or that "all manifestations of will arise from ideas" (and those conscious ones) (p. 622). This perverse conception of course prevents him from at all comprehending the unconscious life of the feelings and impulses, its connection with the inmost core of individuality, the character, and the thoroughgoing dependence of the intellectual life both in the healthy and in the morbid condition on the sphere of the will. But just that which is wanting in Wundt is with Maudsley a regulating fundamental idea of his conception of the healthy and morbid life of the mind, and he attains by means of it the most surprising results.

Thus Wundt and Maudsley are complementary to one another. To the richer and more precise material of the former the latter brings the fine psychological observation of a tried mental physician, and by his often ingenious side-remarks offers an abundance of valuable

stimulus to thought. The fundamental importance for the conscious of the unconscious psychical life, the thorough dependence of the former on the latter, as well as the primacy of the will, is with Maudsley a firm conviction. As predecessors in respect of the knowledge of unconscious mental life, he cites, in his unacquaintance with German philosophy, hardly any one but Hamilton, Carlyle, and Jean Paul Friedrich Richter.

For Wundt, who, in his earlier studies on the genesis of sense-perception, had independently reached the theory of unconscious inferences, the hypothesis of Herbart that the will results from the dynamic of ideas was fraught with serious consequences, in that he was induced thereby to limit the scope of his own earlier doctrine. And undoubtedly the theory of unconscious inference cannot but appear a very venturesome and doubtful hypothesis when completely isolated and arbitrarily limited by the denial of unconscious mental life in all other directions. Nevertheless Wundt's restriction of the doctrine of unconscious inference (which, according to his own statement on p. 708, is *thoroughly accepted* by the more recent "Psychology," so far as it does not take a Nativistic direction) merely amounts to this, that the unconscious connection of those moments which we reproduce in discursive logical form is *not* to be regarded *as a discursive one* (which I myself have always and everywhere emphatically asserted); and only because Wundt does not observe that the form of Logic in and of itself is *anything but discursive*, but first becomes so through reception into the form of consciousness, only for that reason does the acknowledgment of a *logical* connection in the unconscious genesis of perception appear to him hazardous (cp. pp. 424, 460–461, 637, 708–711). The error of Wundt, in refusing to acknowledge the essence of the *logical* save in the discursive form of reflection, seems to stand in close connection with his other erroneous opinion, that *consciousness* also only consists in the

form of discursive reflection, *i.e.*, in the connection between ideas separated in time, brought about by memory and reflection (cp. pp. 825–827, 829, 837). It is, however, not evident why a conscious centre should not be conceived which once in a lifetime, and then never again, has a perception, and yet retains this in full clearness of consciousness. Whether this perception leaves behind a memorial trace, whether this trace suffices to lead to reproduction on renewed excitement, and whether the intelligence of the organ suffices to recognise this reproduction as such (*i.e.*, as memory), all that is for the consciousness of the first perception entirely indifferent and without influence. Wundt thus mistakes in two directions the derived and secondary character of conscious reflection. In the first place, he fails to see that all discursiveness of conscious ideation is composed of single acts of consciousness, each of which possesses the intuitive evidence of sense; and, secondly, that all that is logical in the discursive sequence rests on the implicit logical connection of the moments of unconscious intuition. By taking as the type of consciousness in general his cerebral consciousness in the form most familiar to him of discursive reflection, without going back to its genetic elements, Wundt lapses into false conclusions on two sides; he denies the character of the logical as of consciousness when he misses the characteristics of discursive reflection.

These preliminary remarks may suffice to prove that even the two best books which we possess for acquiring an insight into the physiology of the central organs of the nervous system, taken singly, do not meet the wants of the layman, whilst to treat them as complementary requires a tolerable amount of labour and independent criticism. I think therefore that the following attempt to discuss the most important points of our present knowledge, in all brevity, and leaving on one side all anatomical and physiological detail, will not be unwelcome to wider circles of the scientifically educated public.

2. *Nerve-Fibre and Ganglion-Cell.*—All the nervous elements of the organism are divisible into two clearly distinguishable kinds—conducting fibres and ganglionic cells. When the organism is intact, the conducting fibres are not determined to isolated, independent action, but merely serve to propagate or transfer a stimulus: (1.) From the peripheral sense-organs to ganglionic cells; (2.) from ganglionic cells to bundles of muscular fibres or secreting membranes; (3.) from one ganglionic cell to another. They thus serve to connect periphery and centre, or to unite several centres. The ganglionic cells, on the other hand, exercise the central functions; they receive the impulses propagated from the periphery, independently modify the same, and either neutralise them by their internal resistance, or are determined to a partial liberation of their reserved force, which then leads to peripheral actions by shorter or longer circuits and by centrifugal paths. The ganglionic cells, moreover, influence the nutrition of the nerve-fibres which proceed from them; nerves severed from their centres of innervation become atrophied (Wundt, p. 107).

But now it would not be correct so to conceive the differentiation as if the conducting elements were *only* passive translators, the ganglionic cells *only* active organs; the conducting fibres also possess their own activity, and also the grey nerve-substance made up of ganglionic cells may serve to propagate stimuli. Only because the path of resistance in the nerve-fibre is relatively much smaller than in the ganglionic cell is it more suited for conduction than the latter; and only because in the ganglion-cell the stored-up force is much greater than in the nerve-fibre is it more fitted than the latter for active operations. Until the transferred excitement is extinguished through the resistance on conduction every stimulus is also propagated in the grey matter, unless the energy therein contained can be discharged in another direction, where the path of resistance is less. Thus, *e.g.*, the grey matter of

the spinal cord after section of the white strands consisting of conducting fibres is unmistakably capable of the propagation of not too feeble stimuli; and the circumstance that with often-repeated conduction in a particular direction the nerve-substance adapts itself to this function, thus the resistance is diminished by habit, makes possible the phenomenon so important for the existence of the organism of the spontaneous compensation of disturbances by the vicarious function, not only of other plexi of fibres, but also even of the grey matter (Wundt, p. 271).

The molecular accommodation of nervous matter to the work most frequently thrust upon it also makes it explicable why the nerve-fibres that are in connection with the organs of sense are most exercised in centripetal, the fibres ending in muscles, on the other hand, most in centrifugal conduction, and meet with less resistance in the corresponding direction. That they do not under normal circumstances conduct in the reverse direction is in any case not provable, since we have no means of making the effect perceptible, if such a conduction takes place. In *motor* nerves the already-mentioned dependence of the nutritive condition on the corresponding ganglion cells, in *sensory* nerves the centrifugal current of innervation of attention and the central mode of origin of illusions of the senses, tells, however, *for* the existence of such opposite nerve currents. However, these reversed nervous currents are in any case of another constitution and form in their vibrations than the normal ones, and since the adaptation and customary diminution of the path of resistance has always reference only to one particular kind of stimulus, the same nerve may very well be employed in the centrifugal conduction of *this* and the centripetal propagation of *that* vibration, whilst it opposes considerable resistance to the particular conduction in the opposite sense. That for the rest this resistance also is not insurmountable has been shown by the experiments of Philipeaux and Vulpian, in which they succeeded in forming a union

between the cut ends of neighbouring motor and sensory nerves, and in thereby obtaining a considerable inversion of the direction of function (Wundt, p. 227). The experiment proves beyond a doubt that the most important thing for the nervous process is the form of vibration, which is determined by the peripheral and central end-organs and handed over to the fibre, and that there can henceforth be no more talk of "specific energies" of nerves in the sense of an absolute immutability. When, on the other hand, Wundt grants (p. 361 ff.) that exercise in processes of a particular form of vibration and direction of propagation is able to impregnate nervous matter with such a molecular disposition "that every disturbance of the molecular equilibrium that occurs calls forth this particular mode of motion;" when further he is obliged to admit that this adaptation is only partly individually acquired, but rests in the main on an innate, inherited predisposition, it is not obvious why the older expression "specific energy" should not be also further retained in the revised modern sense; at the most, one might convert it into the other: "specific disposition."

This "specific disposition" becomes an actual "energy" by representing *not merely* a diminution of the resistance of the path to a particular form of vibration, but, at the same time, a certain tension or potential energy, which with given stimuli is liberated as living force or energy of motion. Thus the work which, *e.g.*, the galvanised motor nerve-fibre performs in preparing a muscular contraction is by no means a mere propagation of the received energy in unchanged form, but it is an effect from its own store of force, for whose liberation the stimulus only gives the external impulse. But now without an internal regulation any stimulus which oversteps the threshold would suffice to discharge the *whole* force stored up in the nerve-fibre; the reaction would be violent, and the nerve would for a long time be incapable of the repetition of a similar performance. In the mechanism

of the nerve, therefore, along with the exciting potencies inhibitory ones must also be inserted, which help to fix the threshold-value of the stimulus, and to limit the discharge of nerve-fibre according to intensity and duration. If the curve of contraction of a stimulated frog's thigh be graphically represented on a vibrating pendulum, which renders perceptible to the senses the course of the reaction, there first occurs a well-marked rise, which illustrates the growing predominance of the exciting potencies, but then a quick descent, which terminates in a depression below the level of zero. After this transitory predominance of the inhibitory influences, the excitement dies away in weaker waves (Wundt, pp. 247–253). The more capable of performance the nerve is, the greater are not only its exciting, but also its inhibitory powers; the exhaustion is shown in still higher degree in the diminution of the inhibitory influences (whereby especially the duration of the reaction is prolonged) than in diminished strength of the reaction. The difference of the reaction on weak and strong stimuli is less in the exhausted than in the fresh nerve.—An increase of irritability results with quickly succeeding repetition of the same stimulus, when the impressions are in a certain measure added together.

Quite analogously, only in changed relations of intensity are the processes set up in the ganglion-cell. One is able to make a comparison between them by causing the same scale of stimuli to act at one time directly on the motor nerve, at another time on the sensory nerves of the same half of the body issuing at the same height of the spinal cord. Ganglion-cell and nerve-fibre are related to one another pretty much as a boiler with a valve not easily to be moved to one furnished with a valve moving with facility. From the latter the steam more easily escapes because with less tension, whilst with the former the valve is only opened by vapours of greater tension, thus also streaming out with greater force (Wundt, p. 268). Because the ganglion-cell offers

a far greater resistance than the nerve, it absorbs stimuli which call forth considerable reactions on direct application to the nerves; the threshold of stimulation is thus raised. In the same way, also, above the threshold of stimulation the period of latent stimulation is longer, because greater resistances, stronger inhibitory potencies must be overcome. If, on the other hand, the reaction has once occurred, the greater store of energy of the ganglion-cell discharges also a greater energy, *i.e.*, the reaction is stronger with similar stimuli, and is, moreover, even with such a choice of the stimuli that the heights of contraction become equal, of longer duration (Wundt, p. 261 ff.) The summation of rapidly succeeding similar stimuli is still more perceptible and of still greater importance in the ganglion-cell than in the nerve. The aggregate activity of rhythmically recurrent stimuli, which taken singly lie below the threshold of stimulation, is the key to the understanding of the genesis of most sensations of moderate strength, which are almost all of them due to the combination of stimuli, each one of which would by itself (as, *e.g.*, an isolated wave of sound in a tone) be ineffectual. The condition of exhaustion, too, is manifested altogether in the same way as in the nerve; a special form of exhaustion is, however, that due to nerve-poisons (*e.g.*, for the ganglion-cells of the spinal cord by strychnine). Although the duration of latent stimulation is increased in poisoning by strychnine, yet the irritability is considerably enhanced (even beyond the irritability of the motor nerve), and every stimulus acts in the same manner as with the healthy ganglion-cell a whole series of similar stimuli; all reactions become stronger and more persistent, vehement even to convulsion; small and great stimuli soon call forth reactions of like strength, and finally, the spinal cord reacts on every stimulus with convulsions (Wundt, pp. 263–264).

Pathologically this condition is designated as "irritable weakness;" an understanding of it is, as Maudsley shows,

the foundation of the correct understanding of all the morbid states of the central organs of the nervous system. The loss of the normal proportion of stimulus and reaction is the sign of a morbid disorder; it is the simplest form of the "aberration" of the ganglion-cell. The "errant" ganglion-cell has no more force at its disposal than the healthy one, but it wastes the same in reacting on every feeble stimulus; it squanders it in tetanus.

The madness of little children and of the brutes (with the exception of those nearest to man) consists essentially in an aberration of the ganglion-cells of the medulla oblongata and spinal cord, in a disturbed grouping of the nerve elements in any cell, and in consequence thereof also in a disturbed co-ordination of the single central cell-groups. These are here no longer functional as a purposive physiological whole, but every group reacts tetanically on the small organic stimuli affecting it, which remain unnoticed in the healthy life, and thereby becomes incapable of retaining feeling with its neighbouring groups. The result is incoherent convulsions, as in St. Vitus's dance. The convulsions may, however, also proceed from higher central points, which mediate the reflexes to sense-perception; then they stand in relation to actual or imaginary sense-perceptions, and manifest themselves as combative, destructive, or murderous impulse. Of this kind is the raging of a mad elephant, or the delirium of a maniac, who perceives the smell of sulphur in his nose, sees his supposed persecutors as devilish shapes surrounded with fiery flames, and believes he has to contend with them or an imaginary lion for his life.—Lastly, aberration in the sphere of conscious volition and ideation is an aberration of the ganglion-cells of the cerebral hemispheres; frenzy consists of spasmodic ideas and feelings, as St. Vitus's dance consists of motor reflex convulsions.

It would be altogether wrong if one tried to see in the molecular disorder of the ganglion-cell, which squanders its store of energy in a manner disproportional to the

stimuli, a condition of *heightened* power and capacity of execution; the morbidly degenerate irritability, in spite of its externally destructive effects, can only be interpreted as a symptom of *weakness.* Even the explosion of a steam-engine proves nothing with respect to the efficiency and solidity of the machine, but rather that it had a weak place. The elevated self-satisfaction and the extravagant merriment of an incipient maniac, or the delirium of a raving madman are just as little a proof of the strength and efficiency of the grey matter of their brains as the motor reflex convulsions of that of a spinal cord poisoned by strychnine; in both cases only the morbidly enhanced *consumption* of energy is revealed, and therefore the irritable weakness must in all cases draw after it *torpid* weakness. All mania ends in derangement of intellect or weakness of mind, all cramps in complete exhaustion of the organs concerned, or of the whole organism. The irritable weakness of the ganglion-cells spontaneously appearing in the organism is only the first stage of a process of degeneration, which is accelerated by irritability the more the *increased consumption of energy* coincides with an already *diminished* potential energy.—If we comprehensively consider wherein consists the difference between the nervous matter in the ganglion-cell and in the (alone active) axis cylinder of the nerve-fibre, it may be thus succinctly stated, that in the latter the chemical decomposition, in the former recomposition during functional repose preponderates (Wundt, p. 266). The former is evinced by this, that the nerve-fibre, abandoned to itself, *i.e.*, separated from its province, has no power to maintain itself, but degenerates; the latter follows from this, that the ganglionic substance during functional repose not only repairs its own waste which it has suffered in the exercise of function, but also provides the nerve-fibres that spring from it with energy for defraying their expenditure. Thus, under normal circumstances, in the fibre the consumption of force, in the cell the produc-

tion of force preponderates. If, now, the condition of irritable weakness occurs in the cell, not only is far more force consumed in all functional exercise, but also in consequence of the more frequent exercise of function the total duration of functional rest is diminished, when not (as in the maniacal, often deprived for weeks of sleep) reduced approximately to zero, and this, moreover, in a condition in which probably the capacity for chemical recomposition is diminished. In that case the occurrence of total exhaustion of the organism, and with a longer duration or more frequent recurrence of the attacks, the morphological and chemical degeneration of the nerve-centres is the necessary issue.

The stated fundamental distinction between the nervous matter in the ganglion-cell and that in the axis cylinder of the nerve-fibre is consequently, as is also shown by the occurrence of pathological degeneration in the grey nerve matter, *not one of kind*, but only *of degree*. Expenditure of energy takes place in the cell by decomposition, as well as storing up of energy in the fibre by recomposition, and only in the *normal* physiological condition of the organism is the opposite tendency *predominant* in either. Accordingly, in this gradual difference no reason can be found for a heterogeneity of substance in cell and fibre. The actions are, on the whole, similar in both, and the difference extends no further than the differentiation of a physiological organ into several subdivisions for the better fulfilment of modified purposes by more perfect division of labour. This result is important for the understanding of the truth that the psychical life does not cease with the ganglion-cell, but extends even to the nerve-fibre and beyond.

3. *The Spinal Cord.*—If we neglect the ganglion-cells united in the sympathetic plexus of nerves and dispersed in various organs, all the rest are massed in the grey matter of the spinal cord and brain. In the former the

grey matter forms four united columns, of which those situated right and left correspond to the lateral halves of the body, whilst the two anterior ones are distinguished from the two posterior by the motor nerves issuing from the former, the sensory nerves from the latter. These four columns now are surrounded by an envelope of white nerve-matter, in which are collected the ascending sensory and the descending motor fibres.

From this it first of all results that there is *no direct* path to the higher nerve-centres for the nerves of the body issuing from the spinal cord, but that the same spot of the grey matter of the spinal cord from which the particular nerve springs must always be passed in centrifugal and centripetal conduction. In other words, the conducting fibres in the spinal cord are *not directly*, but only by the intervention of ganglionic cells, *united* with the nerves of the body; and in every conduction from the brain to the muscles or conversely, ganglionic cells of the spinal cord co-operate as active links, which reflectorially propagate the stimulus, so far as it lies for them above the threshold.

It further results from the above-named arrangement that sensory and motor fibres never spring simultaneously from one and the same ganglion-cell of the spinal cord; that thus a reflex from a sensory to a motor fibre is compounded of several separate reflexes of at least two ganglionic cells (one in the posterior and one in the anterior cornu). The simple reflexion in a single ganglion-cell of the spinal cord can always include only *one* kind of trunk-nerve, and the other term must consist of fibres connecting other ganglion-cells—be they neighbouring and co-ordinate, higher and superordinate or lower and subordinate cells—be it a plexus of primitive fibres connecting neighbouring cells, or an ascending or descending nerve-fibre. It is important to make clear this co-operation of several ganglionic cells of different functional importance in the occurrence of the simplest reflex of the spinal cord, in

order thereby to open the way for a better comprehension of the entangled co-operation and subordination between the different central organs.

If the conducting fibres that run in the white substance of the spinal cord always remained on the same side on which they arise, the two halves of the body would have no communication with one another at all for *weak* stimuli of sensation and movement, which are extinguished by the resistance of the grey matter; on that account there takes place a partial transference of nerve-fibres from the one lateral half of the spinal cord to the other. Since a co-operation of the two halves of the body only appears to be requisite with *stronger* motor stimuli, which besides are conducted through the grey matter, this decussation of the *motor* fibres extends only to a small fraction, as follows from this, that with unilateral section of the spinal cord only weak disturbances of movement become visible on the uninjured half of the body; with stimuli producing sensation, on the other hand, an exact connection of the two halves of the body is requisite for weak stimuli, and therefore the decussation of the sensory conducting fibres is a far more considerable one (Wundt, pp. 114–115). In the higher central organs, too, this order everywhere recurs, that the connection between the two halves of the body is established partly by bridges of grey matter or by special commissures (*i.e.*, conducting communicating strands), partly by decussation of the paths.

Of special interest is this relation in the chiasma of the optic nerve, which was formerly regarded as the point where the two optic nerves crossed. But that is only true of animals with outwardly-turned eyes, which have no common field of vision for the two eyes; whereas, on the contrary, with man and animals with a binocular field of vision, only the half of the fibres of any nerve, and that too the one turned inward, passes over to the other side, whereas the outer halves remain uncrossed. The con-

sequence of this is, that the left halves of both retinas are combined in the left, the right halves of both retinas in the right corpus quadrigeminum. In animals with outwardly turned eyes injury of a corpus quadrigeminum causes blindness of the opposite eye, but in man disease of one corpus quadrigeminum, *hemiopia*, *i.e.*, blindness or destruction of vision in the left or right half of the two retinas (Wundt, p. 146). It is obvious that only by this blending of the similarly situated halves of the two peripheral organs in one-half of the central organ is the blending of corresponding impressions on the two retinas explained, *i.e.*, the riddle is solved of *single vision with two eyes*, and I have specially discussed this example because we have according to its analogy to imagine the whole arrangement of our nervous system, which, in spite of the *two-sidedness*, both of the central and also of the peripheral organs of sensation, yet leads to an *indivisible* sensation of our body even for the weakest stimuli. Only the *union* by central bridges or commissures with partial peripheral decussations of the paths makes this result possible, and helps us out of a condition in which we should feel the two halves of our body as if they were two separate bodies; and it only remains to the thinking consciousness to grasp these separate sensations into a unity, just as the owner of an estate can manage two properties entirely separated from each other with the help of a single ledger. It is true the necessity of the *union* by commissures with *partial* decussation of the paths holds good only for the spinal cord and the hinder and middle parts of the brain, but not for the fore-brain or cerebrum, and that for the twofold reason that in the first place the union of the cerebral hemispheres by commissures and arcuate fibres into a single indivisibly functioning organ is a far more intimate one than in the afore-named centres; and, secondly, because the motor-impulses of the cerebrum must always first pass through media (at any rate through the motor ganglia of the peduncle of the cerebrum), in which the blending in

question is already performed by partial crossing of the paths, so that a repetition of these means would be superfluous. The cerebral hemispheres are therefore in man the only organ in which the decussation of the afferent unilateral paths is not a partial but a total one.

That the spinal cord in its grey matter is a central organ of lower order with a certain relative independence may now be considered as pretty generally acknowledged. Maudsley says: "There can be no difficulty in admitting that the spinal cord is an independent centre of so-called aim-working acts that are not attended with consciousness" (*i.e.*, brain-consciousness). "It is the centre, however, not only of co-ordinate action the capability of which has been implanted in its original constitution, but also of co-ordinate action the power of which has been gradually acquired and matured through individual experience. Like the brain, the spinal cord has, so to speak, its memory, and must be educated" (p. 149). "In fact, if any one attends to his ordinary actions during the day, it will be surprising how small a proportion of them are consciously willed, how large a proportion of them are the results of the acquired automatic action of the organism" (p. 152). "Of these unconscious or involuntary actions a great part is plainly due to the independent power of reaction which the ganglionic cells of the spinal cord have" (p. 136). "The anencephalic infant, in which absence of brain involves an absence of consciousness, not only exhibits movements of its limbs, but is capable also of the associated reflex acts of sucking and crying" (p. 137). "Pflüger[1] touched with acetic acid the thigh of a decapitated frog over its internal condyle; it wiped it off with the dorsal surface of the foot of the same side; he thereupon cut off the foot, and applied the acid to the same spot; the animal attempted to wipe it off again with the foot of that side, but, having lost its foot, of course could not. After some fruitless efforts, there-

[1] Pflüger, "Die sensorischen Functionen des Rückenmarks" (Berlin, 1853).

fore, it ceased to try in that way, seemed unquiet, 'as though it were searching for some new means,' and at last it made use of the foot of the other leg, and succeeded in wiping off the acid. . . . Notably we have in this striking experiment not merely contraction of muscles, but combined movements in due sequence for a special purpose; we have actions that have all the appearance of being instigated by will and guided by intelligence in an animal the recognised organ of whose intelligence and will has been removed. So much was Pflüger impressed by this wonderful adaptation of means to an end in a headless animal, that he actually inferred that the spinal cord, like the brain, was possessed of sensorial functions. Others, who would scarce admit Pflüger's supposition to be true of man, have thought that it might be so of some of the lower animals. Instead of grounding their judgment of the complex phenomena in man on their experience of the simpler instances exhibited by the lower animals, they have applied to the lower animals what I believe to be their subjective misinterpretation of the complex phenomena in man" (p. 138).

Maudsley here announces an important methodological principle for comparative physiology and psychology, which I have also followed above in Sect. A. Chap. i., and for the observance of which I have often been reproached by scientific specialists. Nevertheless, this principle ought to be self-evident to every naturalist, and it is only the psychological prejudice: that no consciousness can inhabit my organism of which *my* consciousness, *i.e.*, the consciousness of my cerebral hemispheres, is not aware,—which has closed even to a Wundt the comprehension of the *fundamental fact* of physiological psychology, namely, the capacity *of every* ganglionic cell to be conscious.

4. *The Inner Psychical Aspect of the Reflex Process.*—The conception of reflexion may be taken in a narrower and a wider sense. In the former case it signifies the im-

mediate passing over of a stimulus of sensation to the motor nerve issuing in the same centre; in the latter case it signifies any reaction of a centre on a stimulus conducted from any quarter whatever. We have already seen that even the apparently simple reflexion of a centre of the spinal cord is a complicated phenomenon, which is compounded of single actions of several ganglion-cells of the posterior and anterior cornua, each of which is only to be subsumed under the notion reflexion in the wider sense. In the same way also, however, the apparently immediate reflexion passes gradually into ever more complicated forms, as I have already shown above in Sect. A. Chap. v., so that the collective mental functions of man fall under the notion of reflexion in the wider sense. For the latter says nothing more than that no ganglionic cell performs its office without a stimulus, but it says nothing about the kind of stimulus or the kind of function. As the stimulus acting on a sensory nerve may arise from a mechanical, chemical, thermal, or electrical source, so can the stimulus of a sensory nerve-fibre soliciting a ganglionic cell to be functional arise from a neighbouring ganglion-cell, from a fibre communicating between a co-ordinate, superordinate, or subordinate centre, or perhaps from a motor nerve-fibre;[1] and the reaction need by no means be immediately an innervation of a motor nerve, but may consist of a propagation of the actively modified stimulus to neighbouring cells or to conducting fibres which lead to co-ordinate, superordinate, or subordinate centres. Every function of a brain-cell which appears subjectively as abstract idea would then be a reflex due to a stimulus received from another cell or from a sensory nerve, which would be subjectively presented as excitement of the conception through association of ideas or through sense-perception.

[1] On the assumption namely that the direct sensations of the muscular contractions (which are not effected by tactile sensations of adjacent tissues) are conveyed by the motor nerves themselves to the central organs, which however is a hypothesis not to be accepted without consideration.

If, on the other hand, one characterises as "reflex" only the *whole group* of individual reactions which lie between the irritation of sensory nerves as first term and the function of motor nerves as final term, one does not thereby avoid the fact that the highest functions of the mind come under the notion of Reflexion. For if the stimulus at all lies above the threshold of reflexion, *i.e.*, if it is not absorbed and extinguished on its way in the central organs through the resistance in conduction, it must also, under all circumstances, finally lead to motor reaction, however long it may in the mean time wander about within the central organs from one ganglion-cell to another, or, to speak psychologically, however many reflections and conflicts of desire may be intercalated between perception and voluntary resolution. In this way of looking at the matter likewise the question then is only concerning a difference *of degree* in the number of connecting links between stimulus of sensation and movement of reaction; and this number *gradually* rises from the simplest reflex contractions to the most complicated processes needed for the control and management of the external world.

"For moderate irritation of a limited part of the skin with a certain mean degree of excitability draws after it a reflex contraction only in that group of muscles which is provided with motor roots, issuing at the *same elevation* and on *the same side* as the irritated sensory fibres. If the stimulus or irritability *increases*, the excitement also first passes over to the motor root-fibres of the *other* half of the body which issue at the *same* height; lastly, with still greater increase it spreads with increasing intensity *first up* and *then down*" (the former on the sensory, the latter on the motor paths of the spinal cord), "so that finally the muscles of all parts of the body, which receive their nerves from the spinal cord and medulla oblongata, are sympathetically affected. Accordingly, every sensory fibre by means of a branch path of the *first* order stands in connection with the motor fibres arising on the

same side and at the same level, by one of the *second* order with those emerging on the opposite side at the same level, by branches of the *third* order with those emerging higher up, and finally by that of a *fourth* order also with those arising far lower down" (Wundt, pp. 116–117). While with increasing intensity of stimulation greater resistances are overcome (or with increasing irritability all resistances reduced), the branch paths of the higher orders must *pari passu* be brought into requisition; and in the same proportion also increases the number of the central intermediate links concerned in the total motor reaction. This increase now takes place very rapidly as we pass from the spinal cord to the co-operation of the higher centres; the reflexions then increase in complication in quick progression, without thereby losing their reflex character.

However, then, one may look at the matter, the conclusion is not to be resisted that all the functions of the central nervous system, and therewith all our manifestations of life and mental activity, fall under the conception of reflex action. We must make this thought entirely our own, when it loses the character of a paradox. It imports, in fine, nothing more than the axiom of sufficient reason in metaphysics. If the latter be translated into the language of nervous physiology it runs, "No ganglionic cell is functional without a sufficient reason, which is called a stimulus;" and translated into the language of psychology it runs, "No volition without motive." Both are familiar self-evident truths, but which perhaps open up a fruitful prospect if we bring them into connection by help of the notion "reflexion" under the point of view of physiological psychology. We have, namely, before us the problem to make internal experience more intelligible by means of the external, and conversely.

The *physiologist* causes his beheaded and poisoned frog to make a movement of contraction, and thereby obtains indubitable evidence that the relatively simple reflex

action observed rests on a *mechanism*. The *psychologist* sees in motivation a reflex act, and gains the equally indubitable conviction that reflexion is a *psychical process* in which a *volition* uniformly follows on a *sensation* in accordance with the true nature of the *character*. The *physiological psychologist*, as soon as he perceives that the essence of reflexion must in both events be *homogeneous*, has to advance to the conclusion, "Consequently reflex contraction is a volition excited by sensation in the particular centre, and the genesis of volition is a mechanism conformable to law." The materialistic physiologists do not need much pressing to accept the last half of this conclusion; but *per contra* the first, although they cannot fail to see that logically they must allow either *both* or *neither*. For the rest, psychology long ago dreamt of a "physiological psychology," talked of a statics and dynamics of desires and ideas; and after all nothing is excluded by the admission of the mechanics of reflexion but the indeterminism of the will, long ago perceived to be untenable. If one once admits that the subjectively psychical acts correspond to objectively material functions, of course all objective mechanics of molecular motions in the nervous system must correspond to the subjective mechanics of desires and ideas, and conversely. All the more astonishing must it, however, appear when the physiologists, who confirm this afresh, will not see the psychological reverse of their apparently materialistic medal, namely, that every, even the smallest, reflex action is a *volition* which is motived by a *sensation*. Sensation *is* only so far as it becomes conscious (certainly, however, only becomes conscious for the particular ganglionic cell or the centre in question); volition stands *in and of itself beyond* all consciousness; and whether in the particular case it appears in consciousness formally as intensive feeling of innervation, or materially as qualitative perceived motion, is dependent on circumstances, and in any case highly improbable for simpler reflexes in subordinate centres.

Wundt has precluded himself from this insight both by his above-mentioned prejudice in regard to consciousness, as also by his distorted conception of the will. His remark is correct: "If one tries to determine where the mechanism ceases and where the will begins, the *question* is altogether *falsely proposed.* For one here opposes conceptions to one another which are *not opposites at all*" (p. 822). But he does not draw from this the unavoidable inference that in that case either sensation and will, in defiance of internal experience, must be denied even in the highest mental functions, or they must also be admitted in the lowest reflex processes, because both sides are related to each other as inner and outer. Were these notions "a mere fiction" (*ibid.*) in the *latter case*, they must be so also in the *former;* were that inner, psychical side of the process and the metaphysical substance of an "unconscious soul" which supports it after the admission of the external mechanism in the simple reflexion "a superfluous and meaningless addition" (*ibid.*), it would be so also in the achievements of the genius and the hero.

Maudsley comes very near the truth, but he is too much of an Englishman to grasp what is apparently so paradoxical with a firm hand. He says: "Wherever an afferent nerve issues from the cell or group of cells in the cortical layers of the hemispheres, and an efferent nerve issues from the cell or group of cells, there is the possible or actual centre of a particular volition; . . . volition or will simply expresses the due co-ordinate activity of the supreme centres, not otherwise than as the co-ordinate activity of the spinal cord or medulla oblongata might be said to represent its will" (p. 444).

This not merely "might," but "must" undeniably be said, if one desires to be a physiological psychologist in the true sense of the word, and would not by such timidity in drawing conclusions forfeit the right of inference in a reverse direction, namely, from the physiological to the psychological aspect of phenomena, from

material to psychical mechanics. Maudsley had the less reason to evade the acknowledgment of a *will* in the lower centres, as he even admits the necessity of the *perception* of the stimulus in the same, which indeed requires the genesis of a consciousness, which the will does not. On the other side, the unwonted step is made more difficult for him, in the first place, by the English not having, as the German, two different designations for *Wille* and *Willkür*; and, in the second place, because, like a true English empiricist, he entertains an almost superstitious dread of treating the abstract conception of the will as an ideal entity *i.e.*, of straying into the province of metaphysics.[1]

In this question also it holds good that for comprehending the complicated events in human consciousness a sure foundation for judgment must be gained from the simple relations in lower animals. On this point Maudsley himself writes as follows: "The simplest mode of nervous action in man, comparable to that of the lowest animals that possess nerve, is exhibited by the scattered ganglionic cells belonging to the sympathetic system which are concerned in certain organic processes. The heart's action, for example, is due to the ganglionic cells diffused through its substance. Meissner has shown that nerve-cells disseminated through the tissues of the intestines govern their motions; and Lister thinks it probable that cells scattered in the tissues preside over the contractions of the arteries, and over the remarkable diffusion of the pigment granules which takes place in the stellate cells of the frog's skin. The separate elements of the

[1] I should much like to know what such an empiricist understands by "explanation" and "principles of explanation," and whether he imagines it possible without ascending to "general principles" to give any explanation, were it only of the simplest physical phenomenon. Concrete reality is of course only possessed by the attraction of the atom A and the atom B, but if Newton had had the same ghost-fear of the "abstract idea" of attraction which Maudsley has of that of Will, he would never have been able to set up gravitation as a universal principle of matter.

tissues are co-ordinated by the ganglionic nerve-cells of the sympathetic system; and these co-ordinating centres, again, are found to be under the control of the cerebro-spinal centres. In the spinal cord the ganglionic nerve-cells are collected together, and so united that groups of them and connected groups of them become independent centres of combined movements, simultaneous and successive, in answer to stimuli; this arrangement representing the entire nervous system of those animals in which no organs of special sense have yet appeared" (p. 108).

Only those who "have applied to the lower animals their subjective misinterpretation of the complex phenomena in man" (p. 139), will be prepared to dispute that these lower animals have sensation and will; for the common objection, that in these organisms all vital manifestations are only reflexes, no longer avails, since we have perceived the like in the highest mental functions. On the contrary, it is precisely the lowest animals that are suited to demonstrate visibly, as it were, that every reflex action even of the simplest ganglionic cell has just as much a subjective and psychical as an objective and physical side, and that the former again falls into a conscious and an unconscious psychical part. The stimulus or the motive must be conscious in the ganglionic cell as sensation if it is above the threshold; the reaction of the will or the result of the reflex process, looked at from within, only becomes conscious at higher stages of intelligence by comparative reflexion; the passage from stimulation to reaction, from motive to volition, the properly *punctum saliens* in reflexion, remains for ever concealed from the light of consciousness; and yet there lies therein just the enigmatic problem, Why then does *this* particular sensation act as a *motive* to *this* volition?

The materialistic conception finds the answer very easy by simply seeking the reason in the objective physical mechanism of the movements. But that means allowing the two-sidedness of a psychical and physical character

only to the first and last term of the process, and refusing it to the middle term, the spark which passes from one to the other; in other words, it means degrading the psychical factor in the reflex to the dead passivity of a mere mirroring of certain members of the then alone actual external process, or the depressing of the psychical to a sort of accidental appendix of the external event, which in certain phases of the latter emerges in an inexplicable fashion.

In opposition to such an external conception it must be remembered that the objective material event, just as the inner events of consciousness, are only two parallel and polar-opposed phenomenal forms of one existence revealing itself in both, which is always more transparent to the view from the subjective than the objective side, because the former view is at any rate a *direct one*, but the latter only *mediated* by the subjective appearance of the objective phenomenon. Whether there is an objectively real physical process, apart from a consciousness apprehending it, is at the very least a *disputed question*, which is even *answered in the negative* by the idealistic theory of cognition; but even if the Realism which affirms it is in the right, it is so *only on the ground of inner* subjective phenomenal experience, which is equally indisputable for idealists as realists. To the latter consequently appertains once for all the *higher* certainty; *on it* alone can the realistic belief in an external reality *be supported*, and every inference of the latter, which leads it to a negation of the certainty of immediate inner experience *withdraws from under itself the ground* on which it stands. Therefore *psychological* experience must always *remain the immutable standard* by which the supposed external experience and the inferences therefrom have to be verified.

The being underlying the appearance begins for the inner psychological series of events just where consciousness ceases, and the unconscious-psychical foundation of the consciousness of the sensation is itself that which, turned towards others like itself, constitutes

the objective phenomenon. This unconscious-psychical foundation of the reflex process in the ganglion-cell is, however, definable most accurately as a will, which is subject to a law such that a certain motive determines it to a certain volition. (It remains here perfectly obscure whether this will is a result of the combination merely of the molecular wills of the cell, or whether other volitional factors enter into it in addition.) In no case is it justifiable to ignore this unconsciously.psychical foundation, and to affix the subjective inwardness as *accidental appendix of certain* moments of the *external* physical process, *which is itself only objective phenomenon.* Volition is a psychical act not merely in its conscious or unconscious existence (as result of material mechanics, as Materialism supposes), but also in the whole history of its origination as due to the psychical motive and the law of its psychical reaction.

5. *The Teleological Character of the Reflex Function.*—The most certain proof of the inner psychical side of the reflex process is the *teleological* character of this reaction, which is expressed in the thoroughgoing purposiveness of the physiological (not pathological) reflexes.—As a matter of course, this purposiveness cannot take place with a scale of stimulation unlimited above and below. As our ear in the deepest tones does not hear a tone, but a droning noise, in the highest is aware no longer of a tone, but of an acute pain, as our eye does not distinguish objects with a very feeble illumination, and is dazzled and destroyed by a brightness all too bright, without the adaptation of these organs being thereby defective, the purposive reflexes can also be looked for only within certain finite limits of the scale of stimulation, but these limits will *themselves again be teleologically determined.* Should the centres react on all too feeble stimuli, they would, as a morbid centre actually does, squander their store of force by reason of the weak

stimuli ceaselessly playing around them, instead of sparing it for the uses where its expenditure is of value for the life of the organism. On the other hand, should the centres be constituted so solidly and firmly that even the most violent attacks could not disorganise them, they would possess a constitution, which would make them less suited to their more delicate offices, without ever satisfying the intrinsically absurd demand of an absolute indestructibility. The fact that abnormally strong stimuli produce convulsions in the centres and act in a disorganising fashion is therefore just as little as the other fact, that the suitable reaction only begins with a certain intensity of stimulation, calculated to render doubtful this teleological character of the reflexes, but rather only serves to set it in the true light.

Further, it is to be noticed, as we said above, that with increasing strength of the stimulus ever *more* and *higher* centres are drawn into action; hence it results that the character of the reaction must change with the intensity of the stimulus. But even this does not tell *against*, but *for* the purposiveness of the reflexes; for it is precisely for *the good of* the organism that it does not respond to weak stimuli merely with *weaker*, but also with *other* motor reactions, than to strong stimuli, which act at the same point. These purposive differences, now, are reached by the threshold of stimulation being different for the reflex actions of the different centres. With the weakest stimulus only the centre in which the particular sensory nerve immediately terminates solicits to reflexion, and the consequence is a simple contraction, which, *e.g.*, suffices to drive away a fly from the hide of an ox, or to push aside the oppressive fold of a man's dress, or to change the uncomfortable position of a leg during sleep.

Purposeless, therefore, the reflexes cannot be called even with the weakest stimuli above the threshold (as by Wundt, p. 823); only the motor sphere of innervation for the centre, which alone reacts on the weakest stimuli, is

a confined one, and therefore also the change of the external circumstances to be effected by it very narrowly limited. As *more* and *higher* centres are reached by the propagated stimulus, this motor sphere of innervation of all the centres sharing in the reflexion extends, and therewith the possibility of combined muscular movements to change the external situation announced by the stimulus. To the sphere of motor innervation governed by a central spot must the impulses of innervation proceeding from it of course correspond, if they are not inadequate from the very first, and therefore to be called unsuitable, and therefore, in fact, for a single ganglionic cell that reflex action which is teleologically demanded is *a quite other one* than for a larger group of ganglionic cells acting in concert, and for a cell in the lower part of the spinal cord quite other than for one in the upper, and for this again another than for one in the medulla oblongata. The reaction can only be called purposive at any point when it has regard to the maximum of what is attainable from this point. This is not sufficiently estimated by Wundt, whilst he cannot of course avoid the acknowledgment of the too evident purposiveness in the case of mean intensities of stimulation.

"A decapitated frog moves its leg against the pincers with which it is irritated, or it wipes away with its foot the drop of acid applied to its skin. It sometimes tries to withdraw from a mechanical or electrical irritation by a leap. When brought into an unusual position, *e.g.*, placed on its back, it perhaps returns to its previous posture. Here, then, the stimulus does *not* introduce *merely* a movement in general, which spreads from the irritated part with increasing intensity of the stimulus and growing irritability, but the movement is *adapted to the external impression.* In the one case it is a movement *of defence;* in a second it aims at *getting rid of the stimulus;* in a third at *removal of the body* from the sphere of the irritation; in a fourth, finally, at restoration of the previous

posture. Still more clearly does this purposive adaptation to the stimulus stand out in the experiments conducted by Pflüger and Auerbach, in which the ordinary conditions of movement are somewhat changed. A frog, for example, whose leg has been cut off on the side on which it is irritated by acid, first makes some fruitless attempts with the amputated stump, then, however, pretty regularly chooses the other leg, which is wont to remain at rest when the animal is unmutilated.[1] If the decapitated frog be fastened by its back, and the inner side of one of its thighs be sprinkled with acid, it tries to get rid of the latter by rubbing the two thighs against one another; but if now the moved thigh be separated far from the other, after a few vain attempts it suddenly stretches this one out and pretty accurately reaches the point which was irritated.[2] Lastly, if one breaks the upper thighs of decapitated frogs, and cauterises, whilst they are stretched on their bellies, the region of the anus, in spite of the disturbing nature of the treatment, they correctly touch the cauterised spot with the feet of the broken limbs. These observations, *which may be varied in diverse ways*, show that the animal entirely deprived of its brain can adapt its movements to the changed condition in a way which, if consciousness and will were concerned, would manifestly presuppose a perfect knowledge of the position of the whole body and of its several parts" (p. 824).

That Wundt, with the latter inference, so far as it relates to a *conscious* knowledge of one's own body, overshoots the mark he himself allows in the observation that even man, *with his very clear consciousness*, and though perfectly *master of his will, does not possess the same;* whence he should conversely have concluded that in those actions of the spinal cord also *consciousness and will may be present without* the need of a *conscious* knowledge of the relative position of the parts of the body. Had he not omitted this

[1] *Pflüger*, "Die sensorischen Functionen des Rückenmarks," p. 125.
[2] *Auerbach* in *Günsburg's* "Zeitschrift f. klin. Med.," iv. p. 487.

conclusion he would also have found no reason in the *mechanical* conception of the reflex processes for doubting the existence of consciousness and will in the same, since indeed the same mechanical conception in the case of the functions of the cerebral hemispheres does not seem to give rise in him to any doubt.

He says: "It is certainly admitted that the self-regulations, which must be presupposed in order to explain the manifold modifications of animal movements without consciousness, are partly *of an extraordinarily complicated* nature; but if one once admits the principle of mechanism, where is the limit to the animal machine?" (p. 822). However, Wundt would have to apply the same remark also to the mechanics of the cerebral hemispheres, thus by his argumentation would arrive at the denial of consciousness and will altogether. If the argument fails in this latter case, *it has no weight at all*—an inevitable consequence of its dependence on the *opposition* of mechanism and will, already declared by him himself to be *faulty*.—The Cartesian doctrine that animals are walking automata, which merely ape us with the semblance of a psychical life, is looked upon to-day by every feeling man as an almost revolting error. How long will it still last before our modern physiologists finally free themselves from the not smaller error in principle, that the organic manifestations of life of the lower central organs of the nervous system are mere mechanical contrivances without any spark of inner life?

It is precisely physiological psychology which must feel itself compelled to conclude in a contrary sense and to say: "If the whole life of the central organs when objectively regarded consists in molecular mechanics, and yet in our consciousness a purposive thinking and willing corresponds to this mechanics, this purposiveness which makes its appearance in the cerebrum also in the form of consciousness must already inhere from the first in all the functioning of ganglion-cells, although it be not every-

where conscious as such, for in the last resort nothing can emerge but that for which a foundation has already been laid in the lower phases of development." It is just the materialistically inclined physiologist, who looks upon conscious thought and volition as a merely passive reflex of the external order, as a transitory accidental appendix in certain phases of the molecular mechanics of nerve, who is entirely precluded from ascribing independent activity to consciousness, and consequently has no choice at all but to explain the undeniable purposiveness which appears in conscious thought and volition as a purposiveness of molecular nerve-mechanics, *i.e.*, it is precisely Materialism which cannot avoid recognising purposiveness in the function of the ganglion-cell, if it will not cut itself off from every explanation of purposiveness in consciousness, in its own reflections and resolutions.

Actual purposiveness Materialism can of course only acknowledge with the help of Darwinism, which represents the purposive molecular dispositions as arising in the ganglion-cells by natural selection. If this attempted explanation proves generally insufficient[1] without the foundation of metaphysical teleological principles, it particularly does so in this special case; for it is not exactly clear how, beside so many other far more important individual variations, an altogether trifling more or less of reflex dispositions in the grey matter of the spinal cord can be *decisive* for the competitive capacity of an animal. *Lamarck's* principle of gradual perfection by exercise avails here just as little; for even if we conceive the purposive modifications of function which are to be established by exercise as proceeding from the spinal cord or higher centres,[2] yet *passive consciousness* cannot explain the *pur-*

[1] Comp. my memoir: "Truth and Error in Darwinism: A Critical Exposition of the Theory of Organic Development." Berlin, C. Duncker, 1875.

[2] The functions of the spinal cord in the higher animals may be likened to the performances of a man who is prevented by his servitude to a strict master from working out his many-sided tendencies, and is obliged to constantly devote himself to a well-defined and limited sphere of labour. The spinal cord of

posiveness of these modifications, because the purposiveness of its own psychical associations *is*, according to the materialistic view, *only to* be *itself* explained by the purposiveness of molecular *mechanics.* Wherefore Wundt is also entirely in the right when he warns us to hold fast to this, that the assumption of a spinal *consciousness* and will *does not in any way contribute* to the clearing up of the problem of *purposive* actions (p. 829); only he ought in consistency to go further, and admit that a higher degree of consciousness can just as little contribute thereto as a lower one; that a *brain-consciousness* is for the explanation of design in bodily movements *just as much* a fifth wheel in the waggon as a spinal consciousness; that the brain consciousness can least of all serve to explain the purposiveness of the spinal reflexes, and that therefore the principle of Lamarck also, so long as merely conscious consideration is regarded as cause of the purposive modification of function, moves in a *circle.*[1]

One only escapes this fallacious *revolution in a circle* by assuming that those purposive modifications of function, which come about with frequent repetition by the fixing of molecular tendencies and diminished resistance, proceed from an *unconscious teleological principle*, whose efficacy in

the higher animals is, as it were, simplified by its constant necessitation to hodman's services for the behoof of the brain; but the inference is illogical that it has lost consciousness and will (which it manifestly possesses in the lower animals), since indeed in the sphere of activity reserved to it it displays distinct intelligence, and in abnormal pathological cases is wont to take part also in the vicarious execution of more independent tasks.

[1] *Maudsley*, who, from his *materialistic* point of view, keenly feels the insolubility of the unavoidable teleological problem, gets rid of the difficulty in genuine English fashion by appealing to the *unsearchable divine counsels.* The *locus* is too characteristic of English science for the writer to resist the temptation of transcribing it:—"If it be said that the gradual building up by education of this embodied design into the constitution of the nervous centres is itself evidence of design, then we can only answer that such a proposition is merely a statement in other words of the fact that things are as they are" (*i.e.*, are here constituted and operate teleologically), "and add the expression of a conviction that science cannot enter into the councils of creation" (p. 156). One wonders how an English scientist has courage to go on investigating. Even a Maudsley is still green wood!

this perfecting of the nerve-centres is only a special case of its *general* teleological efficiency as *organising* principle. As the external mechanics of the material processes and the inner mechanics of conscious ideas and desires are co-ordinate phenomena of one and the same metaphysical substance, so is also the *regularity* of this outer and inner mechanic (not the parallelism of a pre-established harmony, but) a coherent efflux from the indivisible essence of this metaphysical substance. Even at this point of view there remains the passivity of consciousness, but the latter now no longer appears as an attribute of matter, but of an immaterial substance, whose other attribute is the manifestation of material energy; thus the psychical is not here confined to the sphere of consciousness, but reaches *deeper* than this, namely, into the metaphysical Ens itself. Then also conscious design in thinking and resolving is no longer regarded as a passive reflection from the sphere of purposive molecular mechanics, but it is like this, an immediate manifestation of the teleological nature of the metaphysical substance itself (the unconscious spirit); what is there dead externality, whose spiritual stamp is first discovered by a thinking mind, is here immediate perception of the inmost nature of the spirit itself in itself.

Without comprehending the parallelism of the two problems, both remain insoluble, *i.e.*, both the teleological character of the external mechanisms and their origin, and also the conscious purposive activity of the human mind must in their *isolation* from one another appear as *transcendent* questions, to penetrate into which is a hopeless undertaking. On the other hand, from the moment when inner and outer are perceived to be two-sided phenomena of One Being, and the *sameness* of the teleological problem in *both* forms of the phenomenon is comprehended, the single reason for the teleological character both of the external material mechanics and of the conscious mental function must be sought in *one and the same* constitution

of the metaphysical substance, of which *both* sides of the phenomena are only accidents, and it is now the purposive character *immediately* known to us of our own mind which affords the *key* to the understanding of that nature of the metaphysical substance which is in question, to wit, causes us to perceive it as the *unconsciously Logical*, which must be *teleologically* active as content of a will or a force. Therefore is it also so important to see clearly that the inner psychical aspect of the process intervening between stimulus and reaction and conscious perception appertain to *all*, even the lowest nerve-centres,—not as if the attribution of consciousness to the same could contribute anything directly to the explanation of the purposiveness of the functions (which I have never asserted), but because it is important to remain always aware of the two-sidedness of the phenomenon, and never to let the key which most directly opens the teleological nature of the metaphysical substance drop from our hands.

How the higher unity of causality and teleology which is here maintained is to be conceived cannot be more fully entered upon in this place.[1] I will here only remark this much, that the time is approaching with giant strides when our natural science will cease to speak of "dead matter." Already the most distinguished natural philosophers recognise the interior, psychical side of atoms;[2] and already there is the glimmering of an apprehension that the key to the nature of the simplest laws of the mechanics of the atom, which hitherto has been considered to be an absolute *datum*, must be sought in this psychical aspect of the atoms, and is to be found in the analogies of our own psyche.[3]

[1] Comp. my writings: "Truth and Error in Darwinism," sect. vii. ("Mechanism and Teleology"); and J. H. v. Kirchmann's "Realistic Theory of Cognition," Nos. 15–22.

[2] Comp. among others, A. Zöllner, "Ueber die Natur der Kometen" (Leipzig, 1872), pp. 320–327.

[3] Zöllner says (pp. 326, 327): "As one sees, by this assumption, *all* local changes of matter, whether they take place in the inorganic or organic bodies of nature, are subject to the following law, which was already substantially expressed above (p. 217): "All the

The law of the conservation of energy signifies in metaphysical reference only the unchangeableness of the actual world-will on the side of its intensity; this law is, however, purely formal, and only teaches us: *if* this quantum of mechanical energy is converted into another form, *e.g.*, into heat, *then* it will furnish such and such a quantum of heat. But *whether* this mechanical energy is in the given case converted into *heat* or any *other* form, or whether it is transformed into tension by removal from its centre, or whether it is for the nonce not converted at all, on these points the abstract formal law of the conservation of energy says nothing. On the decision of *these* questions in every single instance depends, however, *the whole content of the world-process;* therefore all that determines the *content* of the cosmic process, *i.e.*, the whole sphere of the logical IDEA, is *not affected* by the law of the conservation of energy. Accordingly the law of the conservation of energy only proves to be the abstract formal *framework, within which* the logical necessity of the material content is manifested, and the qualitative determination of things, by means of causality and teleology obtains scope for display. The law of the immutability of the absolute quantum of force accordingly requires to be supplemented by other natural laws which determine the "*How*" of the force at every point of the unchangeable total; and only in these latter laws can, nay, *must* the teleological character of the metaphysical substance of the atoms attain expression: their striving after satisfaction of their special will and their instinctive warding off of pain (which springs from repression of this will). As, metaphysically speaking, the cosmic process is compounded of Will and unconscious-logical IDEA, of which two moments the former determines the "That,"

activities of natural existences are determined by the *sensations* of pleasure and pain; and are indeed such that the movements within a confined sphere of phenomena look as if they followed the *unconscious purpose* of reducing the total of painful sensations to a *minimum.*"

the latter the "What and How" at every instant of the process: so, scientifically speaking, the world-process is compounded of the unchangeable cosmic quantum of energy and of the laws determining the conversion of energy in the particular cases, and this exact parallelism of the two ways of regarding the cosmic process may pass for a new proof that the metaphysical distinction of the moments Will and IDEA should be called anything but arbitrary, but is deeply founded in the essence of things, and is precisely adapted to enlighten natural science on the deeper significance of *its* first principles.

There is a further question whether the teleological laws of Nature that materially determine the conversion of force in respect to the mechanics of the atom are also sufficient to explain the uniform teleological behaviour of the ganglion-cell, or whether with this union of atoms and molecules into an organic-psychical individual of a higher order new laws must be supposed to come into play, which point to a specific difference between the unconscious individual aim of a ganglion-cell and the combined unconscious ends of the atoms and molecules that constitute it. From such a varying unconscious purpose, coincident with a variously constituted individual will or individual character, varying laws of motivation would then at once follow, inasmuch as a differently constituted unconscious individual will is compelled to feel pain and pleasure by different external circumstances. — An imperfect example may make this clear. In chemistry, the law holds good that if several substances are brought together in a condition capable of reaction, the molecular displacements are such that the algebraic sum of the positive and negative amounts of heat thereby developed to become a maximum. To this law the actions in the cell of the spinal cord poisoned with strychnine or in the cerebral cell of the maniac seems to correspond, where the chemical processes tend to the squandering

of the stored-up potential energy. The influences in the healthy ganglionic cell, on the other hand, running counter to this conversion, which we have called the inhibitory potencies, *and in which the specific fitness of the function of the ganglia is first manifested,* seem to point to a *new* law of a higher order limiting the play of the chemical molecular laws. However, this is to be considered as merely an illustrative example, and must not be taken for more than it is worth.

If now it should turn out that the teleological-uniform mechanics of the ganglion-cell rests on natural laws which do not result from the mere combination of the mechanical laws of the atom, the atoms also could no longer be looked upon as the substrata of such laws of a higher order, because one and the same individual subject cannot be substrate of opposite mutually limiting natural laws. A metaphysical substratum must then be introduced for the additional laws of a higher order, which, together with the material atoms composing the cell, would *in combination* constitute the *entire* individual of this ganglion-cell.

From the side on which we have entered upon this investigation, it might perhaps appear premature to attempt to give a definitive decision on this question. But as we have already seen that this ultimate substratum would coincide with the organising principle which directs the teleological perfecting of the ganglion-cell as an integral element of the perfection of the collective organic type, and as this organising principle, as metaphysical support of the universal organic law of development, must necessarily be conceived as something superadded to the material atoms, we shall from this side likewise venture to decide our foregoing alternative in favour of an additional metaphysical agent, which connects the manifold of the outer and inner atomic functions in the ganglion cell into an external-teleological as well as into an internal-psychical unity, and

thus exalts the cell into an internally as well as externally indivisible *organic-psychical individual.*

To be sure, whoever either denies the teleological character of molecular mechanics in the ganglion-cell (as the older Materialism), or ignores it as an intrinsically insoluble transcendent problem having no point of contact with science (as Maudsley), or, lastly, admits it indeed as fact, but thinks to explain it from blindly necessary and accidental causes (as Darwinism and Wundt), such an one will only act consistently when he declines at the outset every metaphysical or unconscious-psychical principle in addition to the atoms, and conceives the conscious as well as the unconscious psychical phenomena in the ganglion-cell as simply phenomenal combinations of the psychical functions of the atoms concerned.[1] He, on the other hand, who regards the teleology of material mechanics as of consciousness as parallel emanations of the unconsciously logical and teleological nature of the metaphysical substance (underlying both aspects of the phenomenon), will (even apart from the necessity of an organising principle as supporter of the law of organic development) rather incline to the other side of the alternative, and expect that the (as compared with the laws of the mechanics of the atom) higher forms of manifestation of teleology which come to light in the ganglion-cell, and the internal and external unity which exalts the ganglion-cell to the rank of individuality, spring from superadded functions of the metaphysical substance, which subordinate the isolated atomic functions to the single unconscious individual purpose of a higher order.

A play of innumerable atoms, acknowledging no superior but the One substance to whom they owe their being, must be more congenial to the democratic, levelling,

[1] Comp. the anonymous work, "The Unconscious from the Standpoint of Physiology and the Theory of Descent" (Berlin, 1872), chaps. iv. and v.

disorganising tendency of the Romance nations, which however cannot dispense with the sway of one all-powerful Cæsar if universal anarchy is not to prevail. An organic construction of the cosmos, in which the atomic forces or individuals of the first order only play the part of the simplest and lowest building-stones, and in each individual of a higher order are held together by an inner tie for a concrete purpose, in order again on their part to serve as building material for still higher individual aims, such a gradual construction will be more agreeable to the Germanic mind which knows that wherever a *living* architectonic work of art is to be brought to pass, levelling must be foregone, and submission be willingly given to the higher purpose.

6. *The Four Chief Grades of Nerve-Centres.*—"In dealing with the function of the nervous system in man, it is, then, most necessary to distinguish different nervous centres:—

"1. The *primary* centres, or *ideational* centres, constituted by the grey matter of the convolutions of the hemispheres. They are superordinate to

"2. The *secondary* nervous centres, or *sensory* centres, constituted by the collections of grey matter that lie between the decussation of the pyramids and the floors of the lateral ventricles. These are subordinate to the primary and superordinate to

"3. The *tertiary* nervous centres, or centres of *reflex* action, constituted mainly by the grey matter of the spinal cord; which again are superordinate to

"4. The *organic* nervous centres, as we might call them, belonging to the sympathetic system. They consist of a set of ganglionic bodies distributed mainly over the viscera, and connected with one another and with the spinal centres by internuntiant cords.

"Each distinct centre is subordinated to the centre immediately above it, but is at the same time capable

of determining and maintaining certain movements of its own without the intervention of its supreme centre. For example, the rhythmical contractions of the heart are kept up by the ganglia distributed through its substance, and accordingly continue for a time after the removal of the organ from the body. But these local powers are not left uncontrolled: terminal branches of the vagus nerve, or rather branches of a motor nerve called the spinal accessory, which go with the vagus to the heart, are connected in some way with the ganglia; and when the vagus is irritated the ganglia are controlled and cease to act upon the heart, which comes to a standstill in a relaxed condition. The organisation of the entire nervous system is such that a due independent local action is compatible with the proper control of a superior central authority. The ganglionic cells of the sympathetic co-ordinate the energy of the separate elements of the tissue in which they are placed, and thus represent the simplest form of a principle of *individuation.* Through the cells of the spinal centre the functions of the different organic centres are so co-ordinated as to have their subordinate but essential place in the movements of animal life; and herein is witnessed a further and higher individuation. The spinal centres are similarly controlled by the sensory centres; and these, in their turn, are subordinate to the controlling action of the cerebral hemispheres, and especially to the action which, revealing itself in consciousness as will, represents the most complete co-ordination of the functions of the hemispheres, and is the highest display of the principle of *individuation*" (Maudsley, p. 109–110).

Two remarks may be made on the above division: in the first place, that a preferable succession would be an inverse one, and the denomination "primary centres" would better suit the "organic" ganglia; and, secondly, that the designation of spinal centres as *reflex* centres is misleading, since even the "organic" centres and sensory

and ideational centres are only reflectorially active, as already discussed. Moreover, it must be held as settled that the differences between the ganglion-cells of the different centre are only gradational, which have only been formed by differentiation from the common structure of the ganglion-cell in the succession of animal life, and that this universal foundation of each single ganglion-cell—in spite of any partial elaboration in a particular direction—has been preserved. There are in the ganglion-cells, just as in the nerve-fibres, specific energies in the sense of impregnated dispositions to definite functions; but here, as there, this specification is only *relative*, not absolute, and everywhere it works in the frames previously indicated by the general nature of the ganglion-cell: stimulus and reaction, perception and will.

Corresponding to the relativity of the specific energies of the ganglion-cells, the transition from the centres of one kind to those of another is also rather gradual than abrupt. If the ganglia of an excised frog's heart incite the latter to beat for hours, and react on a stimulus with a rhythmical contraction, the different position in the body more than the specific reflex energy serves to differentiate these ganglia from the lower centres of the spinal cord. The *medulla oblongata* forms a kind of transition between the spinal cord and the sensory ganglia of the brain, and, so far as its historic evolution is concerned, certainly belongs to the brain, but functionally stands far closer to the spinal cord. The increasing extent of the sphere of motor innervation as we ascend the spinal cord is especially noticeable in the medulla oblongata. The latter is also, moreover, distinguished from the other reflexes of the spinal cord by a more ingenious combination of numerous movements for obtaining definite effects, "so that the mode of combination is often brought about by a self-regulation which is founded in the reciprocal relation of several reflex mechanisms" (Wundt, p. 178). In the spinal cord the ganglion

cells at the different levels are tolerably uniformly ordered in the four columns of the grey medulla. Only in the medulla oblongata is this symmetrical distribution interrupted, in that larger groups of ganglion-cells are fused into compact distinctly isolated nuclei, which are united with one another, as with the parts above and below, by means of conducting fibres. Such nuclei then serve definite groups of complicated processes of movement, that partly, like the regulation of the heart-beat and inspiration, are persistent rhythmical functions which approximate to those of the vegetative ganglia (*e.g.*, movement of the intestines, tone of the vessels). By the union of two or several reflex centres with one another an alternating action is made possible, *e.g.*, between a centre of inspiration and another of exspiration (p. 181); the former (like most of the so-called automatic functions of lower centres) is set agoing by the stimulus of insufficiently aerated blood, the latter by the sensation of the inflation of the lungs mediated by the sensory nerves (p. 177). Similarly Wundt assumes special centres in the medulla oblongata for the acceleration of the beating of the heart and for its slowing and inhibition, for the distension of the vessels and for their contraction (p. 185), for vomiting, for the act of swallowing, and, lastly, for coughing and sneezing, which pass over into the mimic reflexes of laughing, crying, sobbing, &c. (pp. 176, 178). In the latter, reflexes of the sensory ganglia already co-operate with those of the medulla oblongata to produce a combined indivisible action.

Those centres which Maudsley comprehends under the name of sensory centres (although this name will not altogether fit the cerebellum, which is included among them) form in many lower animals, in which the Forebrain (or cerebrum) essentially acts only as olfactory ganglion, the highest stage of development of their central nervous system, and is quite sufficient for their vital purposes. These animals move about with pretty much

the same security and adjust their actions with the same appropriateness to the sensibly perceived external circumstances as a human somnambulist whose cerebral functions are completely suspended (M., p. 252). "Trousseau mentions a young amateur musician subject to epileptic vertigo who sometimes had a fit lasting for ten or fifteen seconds whilst playing the violin. Though he was perfectly unconscious of everything around him, and neither heard nor saw those whom he was accompanying, he still went on playing in time during the attack" (M., p. 151).

Similarly is it with the capability of certain idiots to master certain difficult feats of skill with long-continued training, which they at last perform with astonishing adroitness (M.) If one removes from a rat the cerebral hemispheres along with the corpora striata and optic thalami, on every repetition of a loud and abrupt noise, such as cats are wont to make, it makes a spring to escape (M.) Mammals or birds from which all the parts of the brain lying above the corpora quadrigemina are removed follow the movements of a burning taper with their head, thus still perceive the impression of light; and likewise "frogs [under operation], which are constrained to make movements of escape by cutaneous irritation, avoid an obstacle placed before them" (W., p. 194).

All this proves that, besides the perception of sense-impressions through the consciousness of the cerebral hemispheres, there must be an additional perception through a special consciousness of the sensory ganglia not included within the former, which Maudsley expressly acknowledges and very decidedly emphasises. One must only distinguish between a perception in the sphere of self-conscious intelligence and one in the sphere of (merely) conscious sense-activity (M.) But just in the same way we must also assume a *will* in the sensori-motor sphere, which for the rest does not need to be like the perception of the sense-impression serving as a motive

to a conscious one. When Maudsley assumes a "sensorial madness" arising through disease of the sensory ganglia (p. 248), in which hallucinations of sense or morbid reaction lead to a pathological condition, with the cerebral consciousness either suspended or persisting, but incapable of resisting the sensori-motor will, the action of the ganglia motived by sense-perception, entering into conflict with the cerebral will and emerging victorious from this struggle, must necessarily be itself designated will.[1]

We arrive at the same result when we compare this sensori-motor sphere in man and the higher animals with the psychical life of those animals whose nervous system has not yet at all risen beyond the stage of sensory centres: as little as we can deny these animals a will, so little can we refuse it to the functions of the human sensory ganglia. The same holds good of the *fitness* of the sensori-motor reflexes. In those animals where the presence of conscious perception and will is beyond dispute, the purposive character of their relations to the external world is too evident for us to doubt the existence of an *intelligence* which it is true has not yet reached so far as the formation of abstract ideas or even to self-consciousness, but yet is a preliminary step to this cerebral intelligence of the higher animals.

Here, too, the parallelism with the well-known performances of the sleep-walker, indicative in part of highly developed intelligence, forms a good illustration. In both there occurs an adhesion of impressions, *i.e.*, a *memory;* but the stage of reflection, which is indispensable for a recognition, is wanting in them, *i.e.*, a conscious *recollection*, and the memory therefore manifests itself not so much on the side of representation as on that of will, *i.e.*, consists

[1] In such a case one may often say that the madman was perfectly conscious of the difference between good and evil; that however, despite of it, he was not in a position to keep back his diseased will from pathological excesses, thus also cannot be made responsible for actions committed in this way. The legislation of different states would then need a rectification in respect to the question of accountability.

essentially only in the ease of the connection between perception and voluntary reaction. This memory therefore furthers the elaboration of the instinctive facility and accuracy with which the most frequent and most important vital actions are performed by animals and man. Even in somnambulists who periodically lapse into their spontaneously somnambulistic condition, a certain memory is unmistakable. For example, they continue tasks which were left unfinished on the last attack at the right point, and the finished work shows that the intellectual bond with what went before had been unbroken. But at the same time, of course, the consciousness of the cerebral hemispheres can have no memory of that which the intelligence of their cerebral ganglia wrought in the somnambulistic state, just because it was *suppressed* during that activity, and could consequently receive no impression for revival.

In the psychical functions of the sensory centres, also, just as in those of the centres of the spinal cord, there is exhibited the interweaving of conscious and unconscious psychical activity. I need only mention the circumstance that most of the animal instincts fall into the department of sensori-motor action, *e.g.*, all building instincts. To whom would not occur the comparison of the singing-bird, which monotonously repeats the melodic-rhythmical period of its species, with the epileptic violin-player who plays the once-learned piece during his attack? Save that the singing-bird is at once aware of and enjoys his song with his cerebral consciousness, which was not possible for the epileptic.

It will not be necessary to repeat at this place the argumentation of the preceding section, which here only acquires still greater force. The ganglionic cells of the sensory centres also act reflectorially and mechanically, not therefore less purposively however, but only the more so, as their sphere of motor innervation and their inner faculty of elaborating perceptions is greater than in

the case of the spinal cord. In the sensory centres, likewise, the psychical subjectivity goes hand in hand with the external mechanism of the molecular motions, and their consciousness is so much richer and clearer as the impressions conducted from the higher sense-nerves are more numerous and precise than those which the centres of the spinal cord receive from the general nerves of the body, and as their faculty of elaborating perceptions is greater than that of the latter. This higher development of the purposive external mechanics and of the intelligence is, however, merely the two-sided phenomenal expression of a higher (unconscious) purpose, which determines the individual life of the organ in question. Here, as there, the reaction of the will on a motive, the mental elaboration of impressions by the co-operation of many cells, and the purposive modification of function, by whose repetition the purposive disposition of the organ is perfected, go on *altogether unconsciously.* These three highest performances of the organic-psychical individual, which are fundamentally only one and the same function looked at from different sides, make up, however, the inmost core of the individuality of the organ. It might be called the actuality of its individual purpose, which is the same thing as the teleological function of the metaphysical substance, whose accidents or modes are the inner psychical and external material phenomenon of the individualised organ.

It would be a great error to try to see in this preponderating importance of the *unconscious* psychical function in the sensory centres any difference in kind from the functions of the cerebrum. What is added in the cerebrum is in essence only the degree of the elaboration of the perceptions, or, to speak in physiological language, the path within the organ which the stimulus traverses from its first entrance till the discharge into motor reaction. While this stimulus in passing from one cell to another liberates afresh in each a reflexion (perception and reaction), it unfolds into a successive chain of conscious ideas,

forming the discursive reflexion which is intercalated between sense-perception and visible reaction, and determines the nature of the latter. But in this increase of the *absolute* number of conscious moments, the *proportion* of this number to that of the co-operating unconscious acts is by no means increased; for *every* progression of a stimulus from one cell to another is a reflex act, which is *per se* unconsciously performed; and the same holds good of the reception of the stimulus by the cell in question and its conversion into conscious perception. All *advance* in discursive reflection is unconscious, and it is as it were only the footsteps of this advance which attain to consciousness. But it is rarely that several such footsteps stand so near one another that we can follow the individual steps; for the most part, their relation to one another points to more or fewer great *leaps* of unconscious psychical function, in which the links of the logical chain are only *implicitly* contained between the conscious extremes.

The development which these thoughts have received above in Section B. has been so frequently misconstrued from the scientific side as speculative mysticism, that it is a peculiar satisfaction to me to be able to cite in confirmation the opinion which the English empiricist Maudsley has formed through his own medical treatment of mental disease and psychological observation. The testimony will be the less carped at by naturalists, as Maudsley himself inclines to Materialism, and tries to go as far as he can with a materialistic interpretation of his psychological observations. He certainly does not everywhere succeed, even in his own opinion, and least of all at the critical points, as we nave already seen in one instance.

The existence of an "unconscious life of the mind" Maudsley declares to be established beyond a doubt, and says: "It is a truth which cannot be too distinctly borne in mind, that consciousness is not co-extensive with mind" (p. 25); and adds, that "the most important part of mental

action, the essential process on which thinking depends, is unconscious mental activity" (p. 34). "He whose brain makes him conscious that he has a brain is not well, but ill; and thought that is conscious of itself is not natural and healthy thought" (p. 41). "An active consciousness is always detrimental to the best and most successful thought; the thinker who is actively attentive to the succession of his ideas is thinking to little purpose. What the successful thinker observes is that he is conscious of the words which he is uttering or writing, while the thought, unconsciously elaborated by the functional action of the brain, flows from unpenetrated depths into consciousness. . . . *Reflection* is then, in reality, the reflex action of the cells in their relation to the cerebral ganglia; it is the reaction of one cell to a stimulus from a neighbouring cell, and the sequent transference of its energy to another cell—the reflection of it" (p. 308). "The brain not only receives impressions unconsciously,[1] registers impressions without the co-operation of consciousness, elaborates material unconsciously, calls latent residua again into activity without consciousness, but it responds also as an organ of organic life to the internal stimuli which it receives unconsciously from other organs of the body" (p. 35). "Not only is the actual process of the association of our ideas independent of consciousness, but that assimilation or blending of similar ideas, or of the like in different ideas, by which general ideas are formed, is in no way under the control or cognisance of consciousness" (p. 30). "In composition the writer's consciousness is engaged chiefly with his pen and with the sentences which he is forming; while the results of the brain's unconscious working, matured by an insensible gestation, emerge from

[1] This only means here that such impressions can lie below the threshold of the collective consciousness of the cerebral hemispheres; if, however, they are to do something, they must lie above the threshold of the particular cell-consciousness. This distinction is lacking in Maudsley, because he does not firmly hold that a stimulus cannot be at all perceived without either being perceived by a *consciousness* or *producing* such a one

unknown depths into consciousness, and are by its help embodied in appropriate words" (p. 30). "When the individual brain is a well-constituted one, and has been duly cultivated, the results of its latent activity rising into consciousness suddenly sometimes seem like intuitions; they are strange and startling, as the products of a dream ofttimes are, to the person who has actually produced them" (p. 32). "The best thoughts of an author are always the unwilled thoughts which surprise himself; and the poet under the inspiration of creative activity is, so far as consciousness is concerned, being dictated to. If we reflect, we shall see that it must be so; the products of creative activity, in so far as they transcend the hitherto experienced, are unknown to the creator himself before they come forth, and cannot therefore be the result of a definite act of his will; for to an act of will a conception of the result is necessary" (p. 33). "Therefore it comes to pass at times that, in the investigation of a new order of events by an intellect which is in genial sympathy with Nature, the law of them explicitly declares itself as by a flash of intuition after comparatively few observations. The imagination successfully anticipates the slow results of patient and systematic research, flooding the darkness with the light of a true interpretation, and thus illuminating the obscure relations and intricate connections. Therein a well-endowed and well-cultivated mind manifests its unconscious harmony with Nature. The brightest flashes of genius come unconsciously and without effort; growth is not a voluntary act, although the gathering of food is" (p. 531). "As in the child there is no consciousness of the *ego*, so in the highest development of humanity, as represented by these our greatest, a similar unconsciousness of the *ego* seems to have been reached; and the individual, in intimate and congenial sympathy with Nature, carries forward in organic evolution with a child-like unconsciousness and a child-like success" (p. 61). "Rules and systems are necessary for the ordinarily endowed mortals,

whose business it is to gather together and arrange the materials; the genius, who is the architect, has, like Nature, an unconscious system of his own. It is the fate of its nature, and no demerit, that the caterpillar must crawl: it is the fate of its nature, and no merit, that the butterfly must fly" (p. 64). "It is not by introspective prying and torture of its own self-consciousness that mankind evolves the genius; the mature result of its unconscious development flows at due time into consciousness with a grateful surprise, and from time to time the slumbering centuries are thus awakened" (p. 66).[1]

If such a genius suddenly emerges at the right time as fruit of an unconscious development in unconscious harmony with all Nature, which has been nourished on a material blindly prepared by others, such an unconscious psychical process must be looked upon as in the highest sense a *teleological* event, for the explanation of which Maudsley probably would only refer to the unsearchable councils of the Creator. Otherwise expressed, the insufficiency of all materialistic explanations in the unconscious-psychical processes is evident the more we rise to an ever more highly organised centre (whether within one and the same organism or among the many differently constituted individuals of the human race). But since the differences are not of a fundamental kind, but only depend on a difference of the stage of development of the common primitive foundations of the ganglionic cell, this result must also reflect its light upon the con-

[1] "Not unamusing, though somewhat saddening, is it, however, to witness the painful surprise of the man of observation, his jealous indignation and clamorous outcry, when the result at which he and his fellow-labourers have been so patiently, though blindly, working, when the genius-product of the century which he has helped to create, starts into life—when the metamorphosis is completed, and the caterpillar has become a butterfly; amusing, because the patient worker is supremely astonished at a result which, though preparing, he nowise foresaw; saddening, because individually he is annihilated, and all the toil in which he spent his strength is swallowed up in the product which, gathering up the different lines of investigation and thought, and giving to them a unity of development, now by epigenesis ensues" (p. 67).

ception of the simplest reflex processes in the ganglion cell.

7. *The Morphological Significance of the Parts of the Brain.*—The morphological interpretation of the different parts of the brain has only been founded on reliable principles since embryology has come to the aid of comparative anatomy, the importance of which was first clearly recognised by Baer. In the lower orders of worms, *e.g.*, the Turbellaria, the entire central nervous system consists of the bilobed supra-œsophageal ganglion, from which nerve-threads radiate to the different parts of the body. In the Annelida and Articulata this supra-œsophageal ganglion has expanded into an œsophageal ring, and this is continued into the ventral cord; in the larvæ of the Ascidians, in the Amphioxus, and the Vertebrata, on the contrary, the supra-œsophageal ganglion has been prolonged into the spinal cord. In the larva of the Ascidians and the Amphioxus the spinal cord is still a simple uniform strand, which seems to terminate in precisely the same way before and behind, and only with more exact observation can there be perceived in front a slight rounded extremity. In the Cyclostome fishes (Myxine and Petromyzon), at a further stage of embryonic development, this vesicle becomes a pyriform swelling, and thus forms the primitive basis of the vertebrate brain; but then it is differentiated by cross constrictions into several vesicles which lie behind one another in a straight line, and this process of constriction recurs in the embryonic development of all the vertebrata without exception.

At the outset there are formed three sections—Fore-brain, middle brain, and hind-brain; the first might be designated the olfactory ganglion, the second the optic ganglion, the third the auditory ganglion. But soon there appears a further differentiation, the Intermediate-brain being detached from the Fore-brain, and the After-brain from the Hind-brain; the former, might be termed

the finer organ for the perceptions of the sense of touch, the latter the centre for the automatic regulation of complicated organic functions subservient to life. In the Cyclostome fishes these five divisions lying in a straight line behind one another and tolerably equal in value, are preserved without essential change of form; in the cartilaginous fishes Middle-brain and After-brain are prominently developed; in the higher vertebrata, on the other hand, Fore-brain and Hind-brain, so that the former overlaps the Intermediate and Middle brain, the latter the After-brain. A distinction of a similar kind again occurs between the reptilia and birds, on the one hand, and the mammalia on the other. In the former, the Middle-brain and the middle part of the cerebellum undergo a relatively important development; in the latter, the Fore-brain more and more overshadows all the other parts, so that at last in monkeys and man it even overlaps the Hind-brain.[1]

In the human brain there belong to the Fore-brain the two *cerebral hemispheres*, corpora striata, corpus callosum and fornix; to the Intermediate-brain the *optic thalami* and the other parts which surround the so-called third ventricle, together with the infundibulum and pineal body; to the Middle-brain the *corpora quadrigemina* and the aqueduct of Sylvius; to the Hind-brain the *hemispheres of the cerebellum* and the middle lobe; to the after-brain the *medulla oblongata*, together with the fourth ventricle, the pyramids, olivary bodies, &c. The original functions of the five parts have been preserved unchanged for the intermediate-brain, middle-brain and after-brain; on the other hand, the Hind-brain or cerebellum has its functional sphere already considerably enlarged in the Amphibia and lower mammalia, and the Fore-brain or cerebrum has in the higher mammalia attained such general importance for all the functions of perception,

[1] Comp. Häckel's Anthropogenie, p. 514–529.

that its original destination as olfactory centre only claims an inconsiderable part of the organ.

According to experiments by Gudden, the brain of new-born birds, whose eyes had been extirpated, remained undeveloped, whilst in rabbits the development of the brain was not thereby impeded (Wundt, p. 194); this proves how much more important a part the function of the corpora quadrigemina, excited by the visual sense, plays in the mental life of birds than in that of mammals. If, on the other hand, the olfactory nerve of new-born dogs be divided, they are no longer capable of any intellectual and emotional development, and give the impression of unsympathetic and feeble-minded individuals. This proves how much the mental life of these mammals depends on the sense of smell.

Now, if we consider that the intelligence displayed by the Middle-brain and Fore-brain, as we saw in the preceding section, is only different in degree, it might appear almost a matter of accident that just the Fore-brain or the olfactory ganglion, and not the tactile, visual, or auditory ganglion, has, in the higher vertebrata, attained so enormous a development, that the groups of ganglion-cells adjunct to the original olfactory ganglion have become a kind of universal centre, in which, in addition to the olfactory organ, the other sense-organs also, nay, even all the parts of the body and the lower centres, obtain a central representation. The importance to life of the olfactory organ taken alone would hardly afford sufficient explanation of this; more pertinent seems the consideration that the Fore-brain occupies a position of polar antagonism to the spinal cord and medulla oblongata, that it lies *peripherally* in respect to the centre or centres of gravity of the central nervous system. This sounds perhaps paradoxical, but has all the deeper significance. As the whole nervous system arises phylogenetically and embryologically from the skin-sense lamina, *i.e.*, from the extreme periphery of the

organism, that part of the central nervous system also, which leads to the mental centre of self-consciousness, must have a peripheral importance for the organism as such and its organic life.

For the organism as such the centre of gravity of the central nervous system lies neither in the too little efficient spinal cord, nor in the cerebral hemispheres, whose conscious-spiritual purposive activity already appears as something transcending the immediate ends of organic life, but in the parts interposed between Fore-brain and spinal cord, which guide the universal reflex processes of the organism and adapt its vital actions to the external circumstances mirrored in sense-perception. This relation finds also an anatomical expression in the circumstance that the groups of ganglion-cells in the stem of the brain and the spinal cord aggregate into central medullary masses, which send out conducting fibres towards the periphery; in the hemispheres, however, the grey matter forms an *external cortical layer* to which tend the diverging conducting paths of the trunk of the brain. This contrast is not yet clearly developed in the more solid or less hollow cerebrum of fishes and amphibia; here the whole mass of the hemispheres is traversed by grey matter in an irregular fashion, so that we have before us a transitional stage from the formation of the nucleus to the cortex. The cerebellar hemispheres, on the other hand, exhibit already in fishes a clearer severance of the cortical layer from the nucleus (comp. W., p. 55–56, note), and this development of the cerebellum in excess of the cerebrum proves that the former has in these animals also to perform functions of a higher order.

Having already briefly discussed in the foregoing section the functions of the after-brain or medulla oblongata, we now proceed to the consideration in detail of the four other parts of the brain.

8. *The Centres of the Space-Senses.*—Of all the parts of

the brain, the function of the Middle-brain or of the corpora quadrigemina (called bigemina in lower vertebrata) has been longest and most certainly known. The parallel development of the corpora quadrigemina with the acuteness of the sense of sight in the animal kingdom leaves us to infer that this centre has the office of working up the visual impressions, and of reflectorially calling forth those movements which are in relation with visual impressions. Destruction of the corpora quadrigemina produces not only blindness, but also paralysis of the movement of the eye and accommodation. One must therefore assume that the cerebral hemispheres only receive the visual perceptions in the form prepared by the corpora quadrigemina, and that only those movements which are caused by a co-operation of visual and other sense-impressions proceed from the hemispheres, but that such movements or modifications of continuous movements, which are exclusively determined by impressions of sight, are independently cared for mainly by the corpora quadrigemina. The accommodation of the eyes is governed by the posterior, the ocular movements by the anterior tubercles of the corpora quadrigemina; and according to Adamük, stimulation of the anterior tubercles on the right side produces movements of both eyes to the left, on the left side movements to the right. The stimulation of the front of the anterior tubercles causes the visual axes to assume a horizontal direction; that of the middle part raises and renders them convergent; that of the hindermost part leads to a downward movement, with still stronger convergence (Wundt, p. 147).

Not quite so well established is the significance of the (improperly named) optic thalami or of the intermediate-brain. Wundt (p. 198) probably correctly regards them as the *tactile centre*, according to the analogy of the just-mentioned visual centre, *i.e.*, as the organ which mediates "the functional union of locomotion with the sensations of touch" (perhaps also with the muscular sense

or specific feeling of muscular movement). The optic thalami also act independently of the will of the cerebral hemispheres as primary regulators, whereby certainly the will of the hemispheres is not precluded from employing them, in order to enable more complicated movements to be executed by them on a given command. At all events, they must in all bodily movements, even though initiated by the will of the hemispheres, co-operate as *regulators*, without which the *estimation* of the movement as a whole and in all its parts would be wanting. We are, namely, always compelled to estimate the *degree* of our several muscular contractions according to the *position* which the particular muscles assume at any moment in relation *to the other* parts of the body; but this position is ascertained by the sense of touch. If the service of the latter is interrupted, the visual sense can in an extreme case act vicariously for the sense of touch, as in the case of a person suffering from *Tabes dorsualis* of the spinal cord, whose tactile feeling in the lower limbs had been lost; or in the instance of a woman with anæsthesia of one arm, who always let her child fall when she averted her gaze from it. The compensation of the visual sense is here always imperfect, and never attains the direct certainty of reflex action like the regulation by the sense of touch executed by the optic thalami. If the optic thalamus be injured on one side, this reflex regulation is destroyed for one-half of the body. Whilst now the muscles of one-half the body act correctly, those of the other are smitten by a sudden helplessness, which looks astonishingly like paralysis, without indeed being paralysis; and the result is an unsymmetrical locomotion, which is called, on account of the tendency to rotation of the head, "circus movement" (Wundt, p. 196–199). That there is no actual paralysis is evident from this, that the disturbance comes to an end in course of time by the will of the hemispheres learning to correct the faulty movements. The purposive movements to

escape made by rabbits or frogs after removal of their hemispheres and corpora striata sequent on *cutaneous irritation* may be referred to the optic thalami as their centre. A confirmation of this hypothesis is the circumstance that such a frog, after injury of one optic thalamus, carries out its attempts to flee in the form of circus movement.

The close juxtaposition of the corpora quadrigemina and optic thalami, the demonstrable paths of communication between them, and the circumstance that in lower vertebrata (*e.g.*, frogs) the optic thalami are insignificant, and their functions partially performed by the corpora quadrigemina, seems to point to a closer connection of the two centres, which would correspond to the close affinity of the senses of sight and touch. These two are the *only spatial* senses which we possess—senses, *i.e.*, which spread out their sensations in space; and the supposition does not seem to me unfounded that the ideal fusion of the tactile and visual space into the indivisible space-perception which we are wont unconsciously to effect must have here a similar physiological foundation, as the blending of the visual space of the right eye with that of the left eye into an indivisible visual space possesses in the chiasma of the optic nerve. In the same way it is not improbable that the union of the corpora quadrigemina with the optic thalami can independently introduce certain movements, which may be termed reflexes to such space-perceptions, as are combined of sensations of sight and touch.

These assumptions will hardly meet with opposition when we remember that the left half of the corpora quadrigemina only contains the left half of the binocular visual image, the right half only the corresponding right one, so that both halves of the image can *only* be brought to blend into a single and whole image *by the co-operation of both halves of the organ.* Finally, these suppositions also find support in this, that for the regulation of the position of the several bodily parts in space there is yet a second organ, the posterior brain or cerebellum, which, it is true, is influenced also by the other sense-organs (especially the

senses of hearing and equilibrium and sense of sight), but likewise is especially determined in its functions by the sense of touch. One may comprehend from this development of the Hind-brain exceeding its original purpose as auditory ganglion that the intermediate-brain, or the optic thalami, may lag behind in their development in most animals, without prejudice to the organism; it would, however, not harmonise with our views on the purposive economy of the organism if *two* organs existed to fulfil a single purpose. We shall rather have to assume that the perceptions of the sense of touch which take place in the optic thalami and those which occur in the cerebellum are *made use of* in an altogether different way. Whilst in the cerebellum the impressions of touch are pre-eminently combined with those of the sense of equilibrium, so as to gain as perfect a *total perception* as possible of the position of the whole body and of its several parts in space, the intuition of the tactile space seems to be prepared in the optic thalami for the perception of the cerebral hemispheres, in like manner as that of visual space in the corpora quadrigemina, and to be fused into the indivisible tactile-visual space even before the entrance into the hemispheres. If this mode of conceiving the matter is correct, it also explains why the consciousness of the hemispheres feels itself unable to dissolve again the fusion of tactile and visual space, although in abstract reflection it perceives the heterogeneity and duality of the two spaces to be beyond a doubt. If this fusion were only a product of the activity of the hemispheres, there would probably be no particular difficulty in producing again the whole element in intuition also. The like holds of the impossibility of decomposing the superficial extension of the visual perception into its non-spatial elements of sensation; whilst, on the other hand, the possibility of this process with the third dimension of space or that of depth is an argument in favour of the supposition that the chief part of the genesis of the perception of depth only appertains to the hemispheres.

9. *The Cerebellum.*—The theory of the functions of the cerebellum is still open to considerable doubt. It is certain that the opinion of Gall of a close relation of the same to the sexual functions is incorrect; the centre for the latter is rather still to be sought in the medulla oblongata.[1] On the other hand, the parallelism in the development of the muscling of the body and of the cerebellum which runs through the whole vertebrate kingdom shows that this organ must be of importance for an energetic innervation of the muscles, and that the muscles under normal circumstances draw a considerable part of their impulse of innervation from the cerebellum. This, however, does not entitle us to designate with Luys the cerebellum the *source of energy of all* motor innervation, since even after destruction of the cerebellum any energetic movements may be called forth by all the other centres, and these latter can, to a certain extent, compensate for the loss of the cerebellum.

What we know with the utmost certainty of the cerebellum, because we do not demonstrate it by vivisection, but by the most numerous experiments in the living man, is the fact that it is the organ of *dizziness* in all its forms. Dizziness may be produced by unilateral injuries of the organ, by one-sided pressure on the same, by cross conduction of a galvanic current, finally by the visual perceptions of moving objects, nay, even by merely imaginary ideas of possible movements, which are connected with certain visual perceptions. As is well known, dizziness is a phenomenon not subject to caprice, *i.e.*, to the will of the cerebral hemispheres, and exhibits itself as disturbance of the involuntary regulation of the bodily movements. As partial disturbance of the function of the cerebellum produces partial disturbance of sensation in both eyes (here too the decussation is a partial one in the same sense as in the corpora quadrigemina), it produces an altered idea of the situation of the eyeball, and thereby an apparent motion

[1] Longet, Anatomy and Physiology of the Nervous System; I. 615.

of objects, to which there is added with greater degrees of dizziness an obscuration of the field of vision. Since the organ continues to be functional, and endeavours to adapt the deportment to the sensations, if the sensations are pathologically perverted, this adaptation must lead to objectively distorted muscular movements, and these are the *rotatory movements*, which accompany every dizziness, although in the weakest degrees of giddiness the particular impulses of innervation of the cerebellum are paralysed by opposite ones on the part of the cerebrum (W., p. 207–221).

If we now ask how, of all the central organs subserving the regulation of the bodily movements with respect to their situation in space, it is precisely the *auditory* ganglion that has come to be the most important, the key to this enigma must lie herein, that the specific sense of equilibrium is in the closest connection with the organ of hearing, and therefore has also been assigned for its central representation in the first degree to the same ganglion as the sense of hearing. This sense of equilibrium is located in the three semi-circular canals, which must be termed a manometer for the inner hydrostatic pressure variously exerted in the direction of the three axes situated at right angles to one another, and whose injury calls forth the same phenomena of giddiness and rotatory movements as those of the cerebellum itself. This organ of equilibrium ascertains the right position of the *head* in respect of the line of gravity, and as the attitude of the body in relation to the head is determined by sensations of touch, indirectly the position of the body as a whole. It is clear that this sense of equilibrium could only be developed *pari passu* with the evolution of the corresponding centre, and that this correlative development of the cerebellum must consist in the unfolding of reflex tendencies with a view to the regulation of the deportment according to the sensation of equilibrium. Thus the development of the centre for the sense of equilibrium soon outstripped that of the centre for the sense of hearing in the Hind-brain, and whilst the sense of hearing probably found pretty early a

second central representation in the Fore-brain, the centre of equilibrium set itself with other subsidiary aids to fulfil its own task, in the first place, in alliance with the nervous bundles of the sense of touch of the whole body, in the second place, in conjunction with the sense of sight.

From this connection there also results an explanation of the circumstance that among vertebrate animals living in water and air the development of the cerebellum is, on the whole, more considerable than in animals living on the surface of the earth. For in creeping and walking the sense of touch aided by the horizontal surface of the ground already affords a tolerable support, which makes the regulation according to the sense of equilibrium to appear less urgent, but in flying, and quite specially in swimming in deep water, the sense of equilibrium affords the chief, if not the sole, foundation of regulation.

In man the original connection of cerebellum and sense of hearing is, strictly speaking, only displayed in two points—firstly, in that the nervous constitution of the organ of hearing is developed in the embryo from the vesicle of the Hind-brain; and, secondly, in that the musical rhythm received through the ear involuntarily impels to rhythmical movements. We shall not go far wrong if we designate the cerebellum the *centre for dancing*, and the fact that a weary troop marches on with fresh elasticity with the striking up of military music is explained by the fact that, instead of the fatigued cerebrum, corpora striata, and optic thalami, now the cerebellum as fresh organ especially undertakes the innervation of the muscles. Although almost all the senses seem to possess a tolerably perfect central representation in the cerebellum, yet on its destruction the sense-perception of the cerebral hemispheres is not affected. This is proved by the latter receiving no class of sense-perceptions (not even those of hearing) through the medium of the cerebellum in the sense in which they receive the visual perceptions through the medium of the corpora quadrigemina.

The hemispheres of the cerebellum are, with the exception of the hemispheres of the cerebrum, the sole centre, which has developed a cortical layer of grey matter, and this circumstance points to the fact that the passage from the compact nuclear formation to that of a superficial distribution serves in both cases the same end. This end can only be the reflexion of the provinces of the body in provinces of the grey cortical layer. A compact nucleus is more adapted to the collection of impressions streaming in from the periphery into an indivisible whole. Where, however, the point in question is how to act on any single province of the whole body apart from the rest, a superficial distribution of the acting layer will be a more suitable formation for the distinct separation of the motor innervation of different provinces than a compact nucleus affording no facilities for the separation of the several parts. Although the attempt to prove the mirroring of the provinces of the body in the cortical layer of the cerebellum has not as yet succeeded, we shall still be obliged to assume it, relying on the analogy of the cortical layer of the cerebrum, where this proof has recently been forthcoming for the several parts.

Whether the functions of the cerebellum are really exhausted with the performances of which we have spoken must be considered as at least doubtful. In any case, it is in the vertebrate animal kingdom the *first* centre to be developed, and even in man the most *highly* developed centre next to the Fore-brain, and it would certainly be rash to assert that our knowledge had at present exhausted the purpose of this organ.

10. *The Fore-Brain.*—By the experiments of Fritsch and Hitzig definite centres of innervation have been proved to exist in the grey cortical layer of the cerebral hemispheres for particular groups of muscles (*e.g.*, for the extensors of the fore-leg, the flexors of the fore-leg, the muscles of the neck, the muscles of the hind-leg, &c.),

lying together in a limited part of the anterior and lateral surface (W., p. 168). The places in question have already reacted on weak galvanic currents, and if the stimulation of other parts has not hitherto been followed by motor or sensory effects, that perhaps lies partly in an unsuitable intensity and quality of the stimuli applied, partly in the rapid blunting of the irritability in consequence of the exposure of the brain. Extirpation of the motor centre alluded to causes disturbance of the movements in question of some duration, but, in course of time, a normal state of things recurs.

Another part of the anterior lobes has long been known by pathological observations as a centre of language. Speechlessness or aphasia is divided into an *atactic* and an *amnesic* kind; in the former the patient will not succeed in giving the conception which floats before his mind its linguistic sign; in the latter, different words are confused with one another. Perhaps this difference points to two different centres, which must co-operate in the function of language (W., p. 230).—Further supports for the exact determination of the distribution of the central seat of perception and innervation are still entirely wanting, and the assertions of phrenology rest on weak foundations.[1]

[1] From recent experiments on monkeys, in which single parts of the brain were electrically irritated and then made inactive by destruction, David Ferrier asserts that he has obtained results which, if they are confirmed, would again represent an appreciable progress in our knowledge of the physiology of the brain (comp. "Proceedings of the Royal Society," vol. xxiii., No. 162). He first asserts that removal of the frontal regions and posterior lobes impairs neither the power of feeling nor the capacity of moving; but that the former disturbs intelligence and attentive observation, and the latter calls forth a state of depression of common feeling even to refusal of food. Further, according to him, the various senses have the following central representation in the cerebrum: vision in the "angular gyrus," hearing in the upper half of the superior temporo-sphenoidal convolutions, common sensation (tactile sense) in the "Hippocampus major" and the uncinate convolutions, smell in the "subiculum of Ammon" or the "uncinate convolution," taste in the lower part of the "temporo-sphenoidal lobe." All these central representations correspond to the sense-organ of the opposite half of the body, with the exception of the olfactory centres, which correspond to the nostrils of the same side.

In the large hemispheres more than in any other part of the brain the several groups of ganglia can act vicariously for one another, and therefore injuries and disturbances, which do not at the same time affect the corpora striata or the peduncle of the cerebrum, disappear more easily and completely than in any other centre whatsoever. Considerable losses of substance of both hemispheres, or one-sided loss of a whole hemisphere, are sustained by pigeons without permanent change in their behaviour, and by rabbits and dogs with a certain loss of intelligence. Even in man total destruction of a cerebral lobe without palpable disturbance has often been observed, although here more widespread injuries of both sides are always sure to be accompanied by motor disturbances, more rarely by those of the senses or of the psychical functions (W., p. 222).

These facts prove that, although specific tendencies to definite functions are found in the cortical layer of the cerebrum at certain places, these specific energies have here still only a relative, not an absolute, importance; that here, too, they are only a consequence of habituation to a certain kind of action continued for generations, whose nature again is conditioned by the commissural connections and the stimuli conveyed by the same (W., p. 231). If these connections and the relations to the rest of the nervous system depending thereon change, in spite of the (partly innate, partly individually acquired) dispositions in a short time other specific functions are exercised by the parts concerned, so that no break occurs in the psychical and organic functions as a whole.

This substitution is favoured partly by the anatomically uniform nature of the grey cortical substance in all parts of the hemispheres, partly by the extraordinarily rich and numerous connections of the several parts with one another. These connections, if we disregard the fibres of the Corona forming the continuation of the ascending path, are of three kinds: (1) the callosal fibres which form commissures between similarly situated parts of

both hemispheres; (2) the arcuate fibres which unite the cortical surface of neighbouring sinuses; and (3) the longitudinal commisures which put remote parts of each single hemisphere into communication with one another (W., p. 157).

It is only the abundance and excellence of these paths which makes possible such a facile psychical communication of all the ganglionic cells of the anterior brain with one another, that their more vivid perceptions flow together into a single consciousness by the act of communication and comparison, which, *e.g.*, does not obtain between the perceptions of the cerebellum and those of the fore-brain. Now, as that consciousness which philosophises and writes books is the consciousness of the cerebral hemispheres, it is evident that it cannot know anything directly of a consciousness of the cerebellum; it is an ignoring of the impossibility of gazing directly into the consciousness of the cerebellum with the philosophising consciousness, when Wundt and others think they can from this fact deny a consciousness of the cerebellum and of the sensory centres (W., p. 713–715). Undoubtedly there exist paths of communication between all the other nerve-centres and the cerebral hemispheres, so that not merely all peripheral provinces of the body, but also all subordinate central organs obtain representation in them; but these connections must, for *teleological* considerations, *be rendered difficult* in order that the whole advantage of the division of labour among independent centres, and the disburdening from common work thereby effected, and the concentration on mental interests, *may not be lost again* for the fore-brain. Either, therefore, the existing paths will serve only for transmitting commands to the executive sub-officers, or (as on the part of the corpora quadrigemina) to conduct the synthetically prepared material of sensation, or only specially powerful and strong impressions are telegraphed to the fore-brain. In all cases, however, the large hemispheres are conscious of the stimuli conducted from other centres

(just as those directly received from sense organs) only as their own stimulations, for what is perceived is only the modification of one's own condition by the stimulus. Reciprocal action is wanting *in the same sense* in which it takes place among the ganglion-cells of the hemispheres, and from which the compound phenomenon of a consciousness of a higher stage of individuality results through the comparison of both perceptions in both cells. In lower animals, *e.g.*, the Cyclostome fishes (Myxine and Petromyzon), where no one of the five parts of the brain has attained decided predominance, but all five regulate their affairs separately, such co-ordination as there is being due to simple superposition, although the parts are not without organic connection, there can be just as little talk about an indivisible consciousness as representative of the organic unity of the individual as in a tapeworm, a piece of coral, or an oak tree, although in these instances the relations between the different consciousnesses become ever looser. The Myxine has not one but *five* brain-consciousnesses, which only in their totality, along with the numerous consciousnesses of the spinal cord and other cells, represent the *whole* psychical life of the animal. Man is altogether in the same case; one of those five, however, the consciousness of his cerebral hemispheres, has been so uniquely developed in advance of all the others, and has acquired such a predominance over the latter, that it includes in itself not only qualitatively and quantitatively the *chief part* of the psychical life of the individual man, but also has become, by taking the lead in the government of the motor muscles, the psychical counterpart of the organic unity of the human individuality. Wundt altogether mistakes these relations when he lays down the false proposition that the consciousness of a coherent nervous system must always be a single one, and that *therefore* within a nervous system different co- or sub-ordinate kinds of consciousness may be assumed to be impossible (714 above, 715 below).

It was mentioned above that the fore-brain is originally

an olfactory ganglion; in the human embryo the development of the nervous foundation of the organ of smell still proceeds from the most anterior vesicle of the brain. Even in the cartilaginous fishes the olfactory organ is prominently developed, and the anterior part of the Fore-brain is prolonged into two "olfactory lobes" which in many higher vertebrata unite to form an "olfactory bulb." In man, where not only the hemispheres have attained an extraordinary size as organs of ideational activity, but also the sense of smell falls into the background as compared with the other senses, the olfactory centre is also of moderate size, and is tolerably concealed in the basal part of the head of the corpora striata. The circumstance that fibres of the olfactory nerve as well as bundles of motor-fibres of the peduncle of the cerebrum meet here leads us to conclude, that from this spot those reflexes are effected which are initiated by odorous impressions (W., p. 202).

The remaining mass of the corpora striata, together with the nucleus lenticularis, is to be regarded as an intermediary for the conduction of the impulses of the will from the lobes of the hemispheres to the muscles (W., p. 203). This is confirmed both by vivisection and in the case of man by pathological evidence, as also by the parallelism of the development of the hemispheres and corpora striata in the animal kingdom. The disturbances of movement of the nature of paralysis after apoplectic fits spring very frequently from apoplectic inhibitions of function in the corpora striata, and in man the result of disease of the corpora striata and of the motor parts of the hemispheres is pretty much alike, save that in the latter case recovery takes place much more easily. The corpora striata are accordingly (apart from the olfactory centre) to be designated *centres for the co-ordination* of *voluntary movements* (initiated by the hemispheres). They execute on a single voluntary impulse combined movements, whose mode of combination may be partly innate, partly acquired by

practice, but which are still always felt as *voluntary* movements so far as the hemispheres are conscious of their impulse of innervation, and merely not conscious of the intermediary functions concerned in the execution of the mandate.

11. *The Co-operation and Subordination of the Nerve-centres.*—Having in the preceding sections examined the functions of the different parts of the nervous system, we are in a position to render an account to ourselves of the purposive connection of the whole.

Whoever should approach the organism of the higher vertebrata with the preconceived opinion that in it, as in the plant, everything is accomplished by democratic co-operation of cell-individuals with equal rights, would, when he considered the intensive concentration of the sway of the higher over the lower elements and of the cerebral hemispheres over the whole, be convinced that he was possessed by prejudice. Whoever, on the other hand, from the standpoint of a one-sided psychology should bring with him the opposite opinion that a single central organ guides and governs all, that nothing happens without its order, and everything happens only as it has been prescribed even to the smallest detail, would again have to be taught by the facts that, in spite of a rigid centralisation for the common interests of the collective organism, and in spite of a certain sovereignty of the supreme authority, this latter is yet relieved of all pettifogging details, because the principle of the *self-government* of subordinate spheres is thoroughly carried out in a remarkable manner. The whole organism is only developed and preserved by the continual self-activity of all the single individual cells, as the state only by the self-activity of all the citizens; but the social activity of these individuals is not, as in the simple form of a small democratic republic, uniformly distributed, but graduated in many ways.

The individuals arrange themselves in groups or families

of the most diverse form, each of which represents a higher stage of individuality, and endeavours to fulfil a higher individual aim; the groups likewise coalesce into circles, and these into provinces, and the provinces obtain a government of their own through special functionaries. As such a province we may understand the sum of those parts of the organism which are traversed and innervated by one and the same nerve. The magistracy of the provincial government of such a province would be the first centre in the spinal cord (or in the brain) with which the particular nerve comes in contact, *i.e.*, into which it enters or from which it springs. These provincial governments now have further governing-bodies, which however are only distinguished partially by *local* demarcation from the sub-offices pertaining to them, in another part by *qualitative* separation of their departments like the various ministries within the same central government. Lastly, over these different provinces is enthroned the chief of the executive, who, however, has at the same time reserved to himself a province of his own for independent work. The various ministers here, however, form no council, but each rules independently over his own sphere; and although between related provinces direct communication takes place to facilitate common functions, yet the establishment of complete unanimity is not left to their collective agreement, but is assured by the direction which they collectively receive from the highest power in the state.

This supreme governor occupies, then, pretty much the position of a gifted monarch who performs the part of his own prime minister without thereby limiting the spontaneous action of any minister in his own department, or of the president of a republic who disdains being, like a constitutional prince, merely the dot upon the *i*, and not only reigns, but also actually governs. Thus the organism, as model of an artistic union of guiding-head, independent provincial government, local self-government, and

individual self-activity, keeps the right mean between democratic anarchy and centralised autocracy.[1] What this organisation of Nature has least affinity with is the constitutional system with its parliamentary machinery and the ideal brutality of its government by majorities. However, it would perhaps be hazardous, to reproach Nature that it also has not followed this doctrinaire model, which, until quite recently, passed pretty generally as the ideal of political organisation. It were rather worth considering whether, conversely, our modern political wisdom might not derive a stimulus to fresh revision of its doctrines from the study of the arrangement of the natural organism.

Through the provinces being in great part not demarcated from one another by localisation of the sphere of government, but by the qualitative difference of offices, there results the peculiar phenomenon that each province of the body is represented *in more than one* brain-centre, and according to the nature of the stimulus or motive can derive its impulses of innervation now from this, now from that centre. This result is one of the most important achievements of modern nerve-physiology, and thoroughly disposes of the popular prejudice that for every province of the body *a single* corresponding centre has to be sought in the brain. Undoubtedly the brain forms in a certain sense a reflected image of the whole body according to its provinces of innervation. It is also correct that this reflected image is in one respect simpler than the original, namely, so far as a physiological element in the centre corresponds to a sphere of motor innervation of relatively considerable extent, whose joint action is effected by the former by means of a single impulse. But in another direction the reflected image is more complete

[1] "The cells are individuals, and as in the state, so here, there are individuals of higher dignity and of lower dignity; but the well-being and power of the higher individuals are entirely dependent upon the well-being and contentment of the humble workers in the spinal cord, which do so great a part of the daily work of life" (M. 180.)

than the original, because it does not offer a single, but (like the image of a mirror cut with facettes) a repeated reflection (W., p. 227–228). In this way, *e.g.*, all the provinces of the body are represented both in the cortex of the cerebrum and in that of the cerebellum, and, moreover, even in the optic thalami and in the corpora striata, and, lastly, by far the largest part once again in the spinal cord, including the medulla oblongata. One and the same movement of a bodily province, namely, can be innervated by a reflexion from the spinal cord or medulla oblongata, or be excited by the optic thalami on occasion of tactile sensations, or be called forth by the cerebellum to preserve one's balance, or spring from the corpora striata, which have received their impulse from the cerebral hemispheres, or, lastly, perhaps be also produced directly by the latter (with evasion of all the other centres except the spinal cord).

Now every one of the centres which have been named (with the exception of the cerebral hemispheres) can again send the same motor impulse downwards on *two sorts* of occasions, or in each of these centres the stored-up energies can be set free in one of the directions pre-designated by the existing tendencies by means of stimuli of two different kinds: firstly, through such as are conducted *from below*, and secondly, to such as are conducted from a *superior* centre. The former are the perceptions conveyed by sensory nerves, the latter are the result of the direct action of the higher governing bodies; in both cases the centre in question reacts independently, conformably to its individual purpose, on the received stimulation; in both cases we have therefore to do with a *reflex act*, which reveals the inner teleology of the independent mode of action of the centre (W., p. 830).

Marshall Hall had based his reflex theory on the assumption of separate paths for reflexes on the one hand, and for the sensory and motor excitements leading to and coming from the brain on the other. This assump-

tion can, however, be established neither physiologically nor anatomically; on the contrary, everything favours the identity of both paths in the sense just explained. In the more simply constructed spinal cord of fishes anatomical inquiry renders it directly probable "that the same ganglion cells which give off motor fibres to the nerve-roots effect by ascending processes a union with the more highly situated motor centres, and by others running backwards with the sensory parts" (W., p. 121–122).

It is clear that an arrangement of the sensory and motor paths making possible the mode of action laid down, must correspond to the repeated reflexion of all or very many provinces of the body by means of the different centres. We may connect with this what was remarked above in Section 3 on conduction in the spinal cord. We there saw how the possibility of the reflexes of the spinal cord was bound up with the further conduction of the stimuli of sensation to higher centres. In the uppermost part of the spinal cord or in the medulla oblongata all the motor and all the sensory fibres unite into a motor and a sensory main path, each of which again divides in the medulla oblongata into several branches. The main motor path first divides into two main branches, of which one leads through the peduncle of the cerebrum to the fore-brain, and the other to the parts of the middle-brain. The former remains purely motor, the latter enters in the centres, where it terminates, into direct connection with parts of the sensory path. The former divides into two sub-divisions, of which one directly leads to the motor part of the cortex of the cerebral hemispheres, whilst the other terminates in the corpora striata and nucleus lenticularis; the latter main branch, on the other hand, divides into three subdivisions. Of these, the one leads through the laqueus to the corpora quadrigemina, the others through the tegmentum to the optic thalami, and the third finally to the cerebellum (W., p. 165).

Thus we see how each of the different centres has its

share in the main conduction which leads downwards to the provinces of the body. That, for the rest, each of these ramifications not merely represents a part of the corporeal provinces, but all taken together, is only made possible by this, that all the conducting fibres are interrupted both on their entrance into the spinal cord, and also further above by ganglion-cells, so that an association of many conducting fibres coming from below repeatedly takes place by means of the grey matter, and a carrying forward of the conduction in an upward direction through several co-ordinate fibres, each of which has now the same significance for all the conducting fibres below in connection with it.

The course of the chief sensory path is in this distinguished from that of the motor path, that only a *small* part of it leads directly to the cortex of the cerebrum; a second branch turns here too to the cortex of the cerebellum, and a third in several subdivisions to the anterior and middle ganglia of the brain (W., p. 165–166). The latter branch offers here, at all events, a partial compensation for the small size of the branch leading direct to the cortex of the cerebrum, because it is to be assumed that the consciousness of the hemispheres receives the chief part of its sense-perceptions (with perhaps the sole exception of the perceptions of hearing) only through the intervention of the sensory ganglia, which work up the stimuli of the sensory nerves independently into orderly and complete perceptions. The sensory paths to the great hemispheres, whether direct or through the sensory ganglia, seem to find their central ending in such districts of the cortex as lie *behind* the fissure of Sylvius, so that thus in general the anterior parts of the cortical layer are to be regarded more as motor, the posterior more as sensory, central parts (W., p. 167), and would stand in a similar relation to one another as the anterior and posterior columns of the grey matter of the cord.

The varied manner whereby one and the same movement may be set up, and the variety of the intermediate stages which a motor impulse issuing from the cerebral hemisphere can traverse, afford a clear insight into the relative facility with which, on the functions of a centre being disturbed, an adjustment can take place by the vicarious action of other centres. One can, of course, here not leave out of sight the fact that pathological processes for the most part acquire in course of time a wider distribution, and thereby frequently again destroy the adjustment which has already taken place. That, however, even in those cases where only a single centre loses its functions there occurs a strong disturbance of all motor phenomena, is an argument in favour of the view that in normal circumstances the path for any complex movement innervated by the hemispheres is that which is best exercised and usually employed.

Complete incapability of motion or paralysis is therefore only induced by arrest of the function of several chief centres, or by interruption of the chief motor path from the brain to the body. An incomplete paralysis, however, presents an entirely different picture, according as the disturbance of function or arrest of conduction relates to the Fore-brain or to the Intermediate, Middle, and Hind brains. In both cases the execution of all movements is still possible; but in the former case it occurs only as involuntary movement of reflexion or regulation; in the latter case only as voluntary movement. If the arrest of function concerns the Fore-brain or the *crus cerebri*, the influence of conscious will (innervation of the hemispheres) is impaired, but the involuntary movements remain untouched by it (*paresia*). On the other hand, if the arrest of function concerns the middle parts of the brain or the paths leading thereto (*laqueus* and *tegmentum*), the conscious will (after overcoming the first disturbance) retains, it is true,

its sway over every single province of innervation, but the regulation and involuntary combination of movements is wanting (*ataxy*). In the former case, the sick person has to make great efforts to overcome the arrest of function by the innervation of the hemispheres, and his movements become truly troublesome and difficult, his gait dragging. In the latter case, the will of the hemispheres must see to all the detail of movement, for which, in other cases, the subordinate centres would make far better provision, and the movements thereby become unsure (even perhaps trembling), the gait hesitating (W., p. 205–206).

A question which must not be left undiscussed is the following:—On what does it depend whether a stimulus affecting the periphery of the body liberates at once a reflex reaction in the particular spinal centre, or only in some one of the higher centres? The mere strength of the stimulus alone cannot here be decisive; for it is indeed true that a stimulus propagates with certainty its excitation to a greater height the stronger it is, and that no centre remains closed to the strongest stimuli; but, on the other side, we also know that the weakest of all stimuli are able to reach the cerebral hemispheres, and that in the normal state of waking life reflexes of the subordinate centres can only be set up in consequence of a relatively very small part of all the stimuli affecting the organism. This state of things is explained by the general law that, as the ganglion-cell exerts on the nerve-fibre an influence, so every higher centre on those subject to it, which simultaneously *lowers* the *reflex irritability* of the lower centres, and diminishes the *resistance* in conducting to the higher centre. This centrifugal current of innervation, *inhibitory* in respect of the spontaneity of the lower centres but helpful for the perception of the higher centre, exists, in the first place, as a persisting tone in the whole nervous system; secondly, it is reflectorially called forth in a more intense degree on the preliminary announcement of stimuli; and, thirdly, it can be voluntarily sent out from

the cerebral hemispheres as result of a conscious reflex process. The latter case gives us the psychological interpretation of the inner nature of this current of innervation, which now appears on its negative side as *inhibiting will*, on its positive side as *attention*.

It is well known that the involuntary inclination to reflex movements (*e.g.*, to shrink on being tickled, or to dance with expressive dance-music) may be suppressed by the conscious will, which must have different degrees of energy according to the strength of the reflex tendency. This however means, in physiological language, that the cerebral hemispheres may innervate the reflex centres in question in such a way that their reflex irritability is momentarily lowered, or that their tendency to reflexion is paralysed by negative impulses. To the same series of phenomena belongs the fact that the conscious will in the healthy waking state keeps in check the instinctive impulses which are rooted in lower central organs (*e.g.*, food- and sex-instinct), but that in dreams, when the activity of the cerebral hemispheres is enfeebled, or on morbid disturbance of the same, these impulses press forward in ruthless and shameless fashion, and in madmen, *e.g.*, often enough seek their satisfaction without restraint in the crudest fashion. It is teleologically of the highest importance that the reflex actions of the lower centres only display their unchecked activity precisely when the cerebrum is deprived of power by sleep, or is claimed by another direction of the attention; it is just the same as in political life, where the governor of a province only acts without reserve on his own initiative, when the prince is not present to take his supreme resolves, or if he be otherwise occupied, and cannot therefore concern himself at the moment with the affairs of a province.

I have (comp. vol. i. p. 131–132, 174–176, 275–276, and vol. ii. p. 105–108) represented attention as a centrifugal current of innervation facilitating conduction, which

may be caused partly by reflex ideation, partly by in-going stimuli, and this often-impugned conception is confirmed in all the main points by the thoroughgoing investigations of Wundt (W., p. 717–725).

Suppose some one is reading a book, and a person present in the room puts a question to him; undoubtedly the subject of the question will not immediately affect the consciousness of his hemispheres, but yet the latter have been stimulated. It is, as it were, a notice-signal, such as the telegraphist sends before forwarding a dispatch. This stimulus suffices to turn reflectorially the current of innervation of attention in this particular direction, and the result is, that the consciousness of the hemispheres *after an interval* takes notice of the question perceived in the auditory centre, and not yet obliterated there. Here appears the importance of highly developed independent sensory ganglia, which perceive the impressions as ordered perceptions before the consciousness of the hemispheres notes anything of the occurrence of a perception.

In the same way as the cerebral hemispheres send forth the innervation-current of attention and of the arrest of the will to the sensory ganglia and sensori-motor centres as reflexion on the stimulus provisionally conducted thither, in the same way must we conceive such currents as radiating from the middle parts of the brain to the sensory nerves and to the medulla oblongata and spinal cord, and from every superior part of the medulla oblongata and spinal cord to every lower part of the same, partly as persisting tone, partly as momentary reflectorial strengthenings of this tone. On the persisting tone of this inhibitory current depends the balance of chemical composition and decomposition in the lower centres, *i.e.*, their nutrition (M., p. 179), in like fashion as that of the nerve-fibre on the inhibitory current of the ganglion-cell from which it springs (comp. above, Section 2). "The increased irregular activity" (in comparison with the co-ordination effected by higher centres) "of the lower centres that

have escaped from control betokens degeneration: it is like the turbulent, aimless action of a democracy without a head" (M., p. 179). This must never be forgotten in the consideration of the appropriateness of the reflexes of the lower nerve-centres, that they only fulfil their normal, proper, and most frequently proposed task on the supposition of the presence of higher guides, to whose orders they readily submit; that the reflex action on commands coming *from above* is the *usual* case, and reflexion on a peripheral stimulus in the absence of higher instructions only the rarer *exception*.

The influence of the inhibitory current coming from above is experimentally demonstrable, and that too in a twofold way. Namely, if a part of the nervous system be separated from its higher centres, the inhibitory current is interrupted, and this interruption comes immediately to manifestation in the considerably increased irritability of the part isolated above. If, on the other hand, the connection of the parts remains unaffected, but higher centres be stimulated (*e.g.*, the upper part of the spinal cord) by stimuli conducted thither, their heightened activity makes itself also manifest in a *strengthening* of the inhibitory current, *i.e.*, the irritability of the lower centres is now found *to be reduced below* the normal state (W., pp. 174 and 118). The enhancement of the irritability of the lower centres in the first case is also demonstrable by slicing away the hemispheres and adjoining parts from above downwards. These experiments, in conjunction with preliminary psychical observations, are quite decisive, and unambiguously prove the artistic and purposive organisation of the nervous system, in which the lower energies are kept, it is true, prepared and always ready for action, but, at the same time, are held in check by the superior authorities, as a squadron of skilful riders and snorting steeds by the will of the leader, until the moment seems to have arrived for unchaining these energies by a nod.

12. *Organism and Soul.*—After the foregoing expositions it can hardly be necessary to point out that, in the present state of nerve-physiology, the old question as to "the seat of the soul," which in philosophical reference could only have been raised by an erroneous metaphysic, is now deprived of all significance on the physiological side also.

The older philosophy could only propose this question so long as it, in the first place, looked on the soul as a metaphysical individual, independently existing apart from the organism belonging to it (monad); and, secondly, as subjected to objective-spatial determinations, being, *e.g.*, of punctual magnitude and locally fixed. Now, one may indeed look upon the soul as psychical substance *per se*, but as such it is not individual (not monad). One may also regard it as psychical individual; as such, however, it is not to be conceived as freed from the body, by which alone it can be individualised. Further, one may conceive it in objective-spatial relations, but only in and through the organism, in the unity through which it alone becomes individual; abstracted from body it is non-spatial in respect to the objective real space, and can merely copy in its *idea* a subjective-ideal space according to the former. The soul conceived in its *separation* from the body is thus not individual and *non-spatial*, and there can be no talk of a place or *seat* of the same; the soul understood as organic-psychical *individual* is just as long, thick, and broad *as the body* or living organism, and cannot have any seat *in* it.

Physiology and physiological psychology, namely, teach us that we have to assume perception and will (and as mediator between both the unconscious-teleological uniformity of the metaphysical substance) wherever a reflexion takes place. This happens, however, not only in every ganglion-cell, but even in the axis cylinder of every stimulated nerve-fibre. For we have seen above, in Section 2, that even in the conducting fibre the stimulus lights upon inhibiting agencies which wholly or partially absorb it, and on stored-up tension, which, in consequence

of this absorption (psychically : perception) of the stimulus, becomes free (psychically: will). The same relation, however, recurs in the protoplasmic content of every living cell in the body (comp. C. Chap. iv. 2). Now, as the organism as such only reaches as far as the *life* of its parts, as this life consists in reflexion, whose inner psychical side cannot be entirely wanting, the individual soul also reaches as far as the organism in the narrower sense, and both only end where the living organism is bounded by dead excretions of its earlier vital processes.

Accordingly, so far as the soul is conceived as unit and individual, its objectively spatial determination coincides with that of the organism; but this does not prevent our recognising the inner organization and the different value of the organs just as much on the psychical as on the material side of the phenomenon. Psychical functions are connected with all the organic vital functions of the cells in the body, but in the economy of the psychical individuality the psychical functions of the different cells have an importance at least as distinct as their organic functions for the economy of the organic individuality; nay, the difference is far greater still on the psychical side.

We have seen how the psychical functions rise in gradual succession from muscular fibres to nerve-fibres, from these to the vegetative ganglion-cell, and from this, lastly, to the cells of the spinal cord, medulla oblongata, sensory centres, and cerebral hemispheres. The gradual character of this step-by-step advance of functions, which is unambiguously illustrated in the parallel scale of the animal kingdom, leaves no room for doubt that the *same* principle is exhibited at *all* stages, and that it is a serious error to try to seek *the soul only in the highest link* of this long chain, namely, exclusively in the cerebral hemispheres of man (and at any rate of the highest mammals). This older conception, in which Wundt is still in the main entangled,

whilst Maudsley has positively surmounted it, lapses into the old error of the localisation of the mind, in that it designates a part of the Fore-brain (the cerebral hemispheres) as sole "seat" of the soul. We must break definitively with this error. Only *particular* psychical functions are assigned to particular parts of the nervous system. Soul in general is *everywhere and nowhere*, according as one understands the term. The individual soul, however (as unconscious unitary totality of the psychical functions of the organically psychical individual), is, *per se*, nowhere, and, referred to the external phenomenal side of the organically psychical individual, it reaches as far as the organism.

As concerns the relation between the internal and external phenomenon, one must hold fast to this, that the immediate content of consciousness is never able to explain the processes of the material phenomenon in the organism, but that *the converse also holds good*, as must at length be granted by all sober men of science. If one is not inclined absolutely to forego all explanation, and to confess to the ignorabimus of Du Bois-Reymond, one must admit that only *one* way remains open by which an explanation can at least not be called impossible. That way, however, consists in this, that we derive the inner uniformity of the conscious mental functions and the outer uniformity of the counterpart of the material forces from a *common source*, and, moreover, not from such a one as formerly might have arranged by a single act the harmony of both uniformities for all time (by pre-established harmony), but from a source which is *immanent* with its essence in all the inner and outer phenomena, and in living activity constantly brings its *essence* to two-sided *manifestation* (comp. above, Section 5). This source of the inner and outer uniformity can accordingly be no other than the nature of the metaphysical substance itself, which is the indivisible essence of both sides of the phenomenon, as well for each single individual of higher

or lower order, as also for the individual of the highest and lowest rank, *i.e.*, for the world as a whole.

Without going back to the mysterious *bond* which closely unites the outer organic individuality with the inner psychical, it is impossible to grasp the organic-psychical individuality as real living and concrete *unity*; it is, in other words, impossible to study *physiological psychology*. This bond, however, can by no means be sought in the sphere of the *phenomenon*, whether external material or inner conscious-mental, since we indeed started with the perception that each side of the phenomenon, even taken in its totality, is *unable* to explain the other side. Consequently this bond can only be sought *beyond matter, as beyond consciousness, i.e.*, physiological psychology is forced by its *own definition* to pass over into the sphere of *metaphysics*. When this irrefragable truth first becomes generally and clearly perceived, the day of reconciliation between Physical Science and Philosophy, which so long (and not without teleological warrant) have shunned one another, will begin to break with beaming splendour, and a new era of science begin.

The *bond*, however, which unites organism and consciousness into the indivisible organic-psychical individuality—the living *spring* whence issues the uniformity of the material and conscious-mental order in ever-renewed harmony—this *essence*, which is revealed in both aspects of the phenomenon, is the *Unconscious*, or the Unconscious Spirit in its twofold character of energetic *Will* and logical (therefore also purposive) *Idea*, and this All-One Unconscious it is which is designated in its functional individuation "unconscious soul."

ADDENDA.

ADDENDA.

VOL. I.

P. 7, note, last l.—Comp. also my "Erläuterungen zur Metaphysik des Unbewussten" (Berlin, Carl Duncker, 1874), p. 8–11.

P. 20, l. 24.—The second enlarged edition of "Das Ding an Sich" appeared in 1875, with the title "Kritische Grundlegung des transcendentalen Realismus" (Berlin, Carl Duncker).

P. 23, l. 17.—A thorough investigation of the part which the Unconscious, in the sense of an unconscious-logical mental function, plays in the whole Kantian philosophy, but quite specially in the Critique of Judgment, and next to that in the Critique of Pure Reason, has been undertaken by Johannes Volkelt in his dissertation "Kant's Stellung zum unbewusst Logischen" (Phil. Monatshefte, 1873, Bd. ix. Heft 2 and 3), and in his work "Das Unbewusste und der Pessimismus" (Berlin, F. Henschel, 1873), p. 44–62. He shows in both places "that the deepening of the Kantian philosophy must always of necessity lead further into the realm of the Unconscious," since in all departments of Kantian inquiry there appear contradictions in the solutions given by Kant, which call for removal, and can only be eliminated by the introduction of the conception of the Unconscious. Kant has, therefore, also in this respect, as

in so many others, laboured and performed less for the progress of philosophy by his *solution* than by his *statement* of problems; and, at the same time, has also more truly paved the way for the recognition of the Unconscious than many a one who had far more distinctly grasped the Unconscious as an isolated conception.

P. 28, l. 25.—Likewise in regard to the Hegelian philosophy J. Volkelt makes some excellent remarks in his book "The Unconscious and Pessimism" (p. 62–78), where it is made clear "that the unconsciously logical must form its *vital element*" (p. 62), and that "Hegelianism pre-eminently possesses the inherent tendency to develop the principle of the Unconscious in its whole extent" (p. 76). If with Kant the Unconscious occupies somewhat the position of an *unsuspected* presupposition, which a thinker hardly ventures to own to himself, with Hegel the unconsciousness of the IDEA in its being *per se* forms a self-evident presupposition, which, by very reason of its self-evidence, he does not further discuss; whereas exposed, as it is, to most misunderstanding and hostility, it is precisely the point which needed the most unequivocal articulation and thorough proof. Accordingly the Unconscious appears in Hegel also an Unconscious in the literal sense of the term, although intrinsically and substantially it pervades and determines the whole content of his philosophy.

P. 28, l. 32.—For the rest, there may be found in Hegel's works a sufficient number of passages to prove to the incredulous that the conception of Hegelianism just indicated was really that of the master himself, and these have been skilfully collected by Volkelt. The expression "objective thought" Hegel finds "unsuitable, because *thought* is usually too much employed as *appertaining* only to mind, to *consciousness*" (Encyclop., § 24). If the inner side of the world be designated Thought, *nothing of the nature of consciousness* should thereby be attributed to it. The logical in the world

should rather form a system of thought *devoid of consciousness* (*ibid.*, Appendix, p. 45 ff.) Hegel declares the office of Logic to be to elevate the categories originally only *instinctively* active in the form of impulses to the stage of consciousness (Works, iii. p. 18–19). Instinct, however, he calls *purposive activity* acting in *an unconscious* fashion (Encyclop., § 360). In his "Æsthetics" he says (2d ed., i. p. 53): "Fancy has a mode of production that is at the same time *of the nature of instinct*, in that the essentially symbolical and sensuous character of art-work must possess a subjective existence in the artist as native tendency and natural impulse, and as *unconscious* action be also the expression of the man on his natural side."

P. 29, l. 36.—The *essence* of the Unconscious remains altogether indefinite in the following observation, which for the rest proves that Schopenhauer had a correct feeling of the *importance* which a profound analysis of the Unconscious must acquire at least for psychology and æsthetics: "All that is *original*, and therefore *all that is genuine* in man, acts as such *unconsciously*, like the forces of Nature. What has passed through consciousness has thereby become a representation. Accordingly *all genuine and sterling* qualities of the *character* and of the *mind* are originally *unconscious*, and only as such do they make a deep impression. Everything of the kind that is conscious has been already touched up, and is intentional, easily passes therefore into *affectation*, *i.e.*, deceit. What man performs unconsciously costs him *no trouble*, can, however, also *not be accomplished by any* trouble. Of this kind is the formation of original conceptions, as they underlie and form the core of all genuine achievements. Therefore only the innate is genuine and will stand its test, and every one who desires to achieve anything must in every case, in *action*, in *writing*, in *culture*, *follow rules without being aware of them*" (Parerga, vol. ii. § 352).

P. 32.—According to Herder, "Nature thinks better than man." Haym declares (Preuss. Jahr., Bd. xxxi., 1873,

Heft I, p. 43) that he is speaking of the unerring Unconscious, which "includes in itself a kind of omniscience and omnipotence, of the one organic Principium of Nature, of the organic Omnipotence distributed everywhere, supporting or restoring life," from which he might just as well deduce the growth of crystals or the instincts of animals, or, lastly, the life, endeavour, and fate of man. On the preceding page Haym quotes a sentence from a letter of Jacobi to the Princess of Galizin: "Our consciousness develops from something *that as yet had not consciousness*, our thought from something which has not yet thought, our reflection from something which has not yet reflected, our will from something which has not willed, our rational mind from something which was never rational soul. A mechanical lever—which need not therefore be quite void of sense—was everywhere the first."

P. 39, l. 3.—An excellent account of the services of the philosophical physiologists may be found in Volkelt, "The Unconscious and Pessimism," p. 78–86. Why Carus could not become the standard-bearer of a new school, of a band of adherents collected round the flag of the Unconscious, is there shown on p. 83–86 (comp. also A. Taubert, "Der Pessimismus und seine Gegner," p. 160).

P. 40, l. 12.—The somewhat modified position which Wundt takes up in his most recent work with regard to the notion of the Unconscious is noticed in the Appendix, "On the Physiology of the Nerve-Centres" (comp. above, p. 208–210).

P. 41, l. 14.—For the rest, the sentence quoted has been anticipated by George Christopher Lichtenberg, in whom is found the following passage: "We become conscious of certain ideas which do not depend on ourselves; others—so at least we believe—depend on ourselves; where is the boundary? We only know of the existence of our own sensations, ideas, and thoughts. *It thinks*, one ought to say, just as one says, *It lightens*. To say *cogito* is already

too much, as soon as one translates by *I think*. To assume to postulate, the ego, is a *practical* necessity."

P. 42.—In a manner independent, as it would seem, of the Continental evolution, the conception of the Unconscious has gained a place in *English* literature in the last decennia; it is a philosopher, a historian, and a physician in whom it has found its clearest expression. Hamilton has inferred the existence of unconscious ideas chiefly from the circumstance (comp. "Lect. on Metaph.," i. p. 352 ff.) that on the revival of a former train of thought sometimes a whole series of intermediate links seems to be overleapt—an argument certainly of little value in this form. The best clue to Carlyle's position in respect to the conception of the Unconscious is afforded by the essay entitled "Characteristics" (which first appeared in the *Edinburgh Review*, No. cviii., and was afterwards reprinted in his collected essays). Of all English authors Maudsley has most decidedly and most thoroughly grasped and defended the conception of the Unconscious, except that he seeks to interpret the Unconscious as far as possible materialistically. The Appendix is sufficiently occupied with Maudsley's views (comp. above p. 253–256) to render it unnecessary to characterise them further here. Lastly, Lewes ought to be cited as an English author who has admitted the notion of the Unconscious in a certain direction.

However defective and incomplete may be the notices here collected, they may yet suffice for the purpose of showing that the principle of the Unconscious, as everything historically important, has been arrived at by a *gradual* process of formation and growth; that all phases and schools of philosophy, from the oldest times to the present day, more or less strive after this principle (comp. J. Volkelt, "Das Unbew. u. d. Pess.," the first part, "History of the Unconscious"), and that in the present work I have only more plainly asserted and shown the deep significance of this principle, as well as most com-

pletely established it, but have by no means aired it as a brand-new discovery (or, as it has been more maliciously called, "invention").

P. 46, note, last l.—That it is in general *lawful*, nay, even *imperative*, to introduce into *philosophical* inquiries the notion of *probability*, which in modern natural philosophy is already universally acknowledged to be the sole foundation of all human knowledge; and that even in philosophy, when discussing problems which admit of various solutions, an effort must be made to determine the probability of the assumption of different conceivable hypotheses as far as seems possible, can only be disputed by two parties, namely, on the one side, by that school which regards the problem of philosophy *exclusively* as the ascertainment of an *absolute certainty*, and declares all other knowledge save a supposed absolute one to be essentially *unphilosophical*; and, on the other hand, from the opposite quarter of an absolute scepticism, which questions the possibility of all knowledge, not only absolute, but also relative, and denies to man the capability of establishing any distinction between truth and untruth. Almost all past philosophy has oscillated between these two extremes. When the pretension to absolute knowledge has once more justly become ridiculous for a time, scepticism regains the upperhand, and it is then set up as the sole problem of philosophy to show that philosophising is nonsense. In fact, it is hardly comprehensible how to-day, after so many failures of systems giving themselves out to be absolute truth, after such clear disclosures of the gradual attainment of truth, after such distinct perception of the insufficiency of the instruments of human knowledge in presence of the overwhelming extensive and intensive magnitude of the universe, there can still always be found ingenuous people who declare the problem of philosophy to be that of absolute knowledge, and venture to assert all knowledge to be unphilosophical which renounces the claim to absolute certainty. That certain

knowledge is and must remain the *ideal* of our cognitive efforts is not to be doubted; but one might at the present day sufficiently know that ideals are *just* what are *not* to be found in actuality; that they rather only form the asymptote, which the curve of historical development more and more approaches without ever meeting. But equally mistaken is it on the other side, when the impossibility of realising the ideal as such is perceived, straightway to reject the ideal as a phantom without any real significance, or to declare real and ideal to be *infinitely* wide apart, and therefore *incommensurable.* Were scepticism right, *all* our supposed knowledge would be *equally wide* of the truth (for if it once touched it by accident, we could indeed know nothing of this concidence); accordingly all possibility of an historical evolution of knowledge, all possibility of science, all perceivable or declarable distinction between knowledge, faith, and crazy imagination would be abolished. One only needs to become conscious of these consequences of a thoroughgoing sceptical principle to see how insupportable it is for the human mind; and so it comes to pass that humanity ever again relapses from scepticism into the dogma of the attainability of absolute knowledge, only, after a little time, once more to exhibit its utter untenability. We are saved from this barren circle only by the open acknowledgment of the relative truth and relative untruth of the two extremes. The dogma of absolute knowledge is right in setting up its ideal, and in the belief that the endeavour after this ideal is not fruitless. Scepticism is right in denying the complete attainability of this ideal to be ever humanly possible. But the former is wrong when it misapprehends the distinction between ideal and reality, and denies off-hand validity to everything, which cannot claim to be *faultless* realisation of the ideal; the latter is wrong when it abolishes the possibility of distinguishing in human knowledge *different degrees* of approximation to

the ideal or remoteness therefrom. It must be strenuously maintained that a different *dignity* appertains to different degrees of cognition, because without this even practical life becomes a senseless hurly-burly. If, however, one chooses to ascribe to scientific knowledge a higher dignity than to unscientific imagining and thinking, to the knowledge conscious of its material proof a higher worth than to the groundless conviction of a faith which rests merely on postulates of feeling, or on the personal authority of him who transmits it, or maybe on morbid fixed ideas, then there is no other means available but to *quantitatively* determine the *degrees* of the approximation of knowledge to the cognitive ideal of certainty, whether this determination be made in numerical form or in the less distinct shape of an emotional estimate of quantity without numerical expression. If Leibniz was right, that there is no assertion, however false, in which there does not lie a grain of truth, and no truth, however sublime, with which there is not some untruth mingled by reason of its expression in language, then there is also no thinking, believing, or knowing in which an unclear feeling does not point to the intermixture of true and untrue elements. It behoves us to scientifically purify this feeling, and to determine the proportion of true and untrue elements, in order precisely to define the degree of approximation of our knowledge to certainty. If one wished to express the dignity of our knowledge by the proportion of its true and false elements, as happens in a wager about the truth of an assertion, one would have a proportion between two variables, which would render difficult the comparison between several such proportions. It is better therefore to express the worth of the knowledge by the ratio between the true elements contained therein and the totality of the elements supposed to be true, or, in other words, one takes the constant cognitive ideal of certainty as standard of worth, as 1, and expresses the degree of the approximation of knowledge to certainty by

the degree of approximation of a proper fraction to unity. Whoever has once made himself familiar with this mathematical mode of expression will soon feel its natural fitness, and easily get accustomed to fix his indefinite emotional estimate of the worth of a cognition by means of a coefficient of probability, whose magnitude may always be conceived as fluctuating between a least and a greatest limit, and accordingly as affected with a probable error.

P. 51.—Objections have been raised from various sides against this employment of the calculus of probabilities, which, however, have betrayed for the most part far too considerable a defect of comprehension for it to be rewarding to occupy ourselves more closely with them, and which one and all do *not* enter upon the point, which I have already indicated (vol. i. p. 48, note) as that, where the concrete applicability of the argumentative processes in question may most easily miscarry.

I will only mention here one opponent, partly because his *fallacious* objections possess a certain plausibility, partly because he has called my attention to the necessity of a *supplement* to my argumentation for the benefit of readers slow of comprehension or ill-disposed, which I had thought I might leave as superfluous to the intelligence of the reader himself. Albert Lange, in his "History of Materialism" (2d ed., vol. ii. p. 280–283, and p. 307–309), disputes the applicability of the entire inferential process to the problems of Nature, so far as concerns regressive inferences from phenomena to their causes, and that on the ground that the actual as a special case of very many possibilities must always appear extremely improbable *a priori*, a circumstance, however, which would not affect its reality, as the fraction of probability means nothing more than the degree of our subjective uncertainty (p. 282 l. 15–11 fr. b., p. 283 l. 3–6 fr. a.) He supports this denial on the ground that the whole theory of probability presupposes an *abstraction* of the efficient causes, of which we are entirely ignorant, whereas certain

general conditions are known to us on which we base our calculation (p. 282 l. 11–7 fr. b.) Were the latter assertion correct there would be no reply to the suggested inference therefrom; but in fact it requires an important modification. If, namely, the co-operating causes which we abstract were absolutely unknown *in all respects*, there could be no talk of probability at all; the calculus of probability is, on the other hand, only possible on the supposition that the co-operating causes of which abstraction is made are *accidental* causes. But by accidental causes in the sense of the calculus of probabilities are to be understood such as are *not in this form* indispensable to the occurrence of the phenomenon in question, therefore also are not constantly met with in the same, but so change that their influence is more completely *compensated* the more frequently the occurrence is repeated. The estimate afforded by the calculus of probabilities rests on the supposition of a *complete* compensation of the accidental co-operating causes in infinitely numerous repetitions. Such accidental causes are, *e.g.*, in inorganic nature the causes which condition the falling of the die on this or that side, in organic nature those which give rise to monstrosities and arrested developments.

Only by leaving out of sight this fundamental assumption of the calculus of probabilities can Lange deny the admissibility of a regressive inference from perceived effects to the nature of the causes. If, *e.g.*, I approach a game of *rouge et noir*, in which I see red appear twenty times in succession, there is certainly no doubt that this event may be produced by a *mere combination of accidental causes;* but little as this possibility is to be doubted, yet the extraordinary small probability of the same gives me the right to conceive also the other possibility, that a *constant* cause is present which favours red. Lange will certainly charge no one with drawing a wrong conclusion, who should hesitate to risk his money in such a game, because the suspicion

(*i.e.*, the inference of probability) at once occurs that the play is contrived with a view to deception, although the possibility is always conceded that this suspicion may be erroneous. But if Lange admits the validity of such an inference, he cannot refuse the like to my examples; he must then be able to prove *a priori* that the class of constant causes which I suppose is impossible. His objection, totally devoid of all proof, in fact amounts to this. The inferential process he cannot by rights impugn, but he only tries to question, from the prejudiced standpoint of a materialistic-mechanical view of the world, the admissibility of the hypothetical goal to which it is applied. From the point of view of the calculus of probabilities, such a procedure would only be legitimate if from the first such an enormous probability were assigned to the mechanical view of the world, forbidding the resort to metaphysical principles (not merely to mythological personal spirits), that even the counter-instances of the highest probability had no power to shake that probability. Were this the case, all philosophy and metaphysics, as Lange thinks, would be impossible; whether it be so is first to be determined by my investigation, and in the meantime it appears to me an unscientific prejudice, a mere *petitio principii*, whose untruth will become more and more apparent.

Lange tries to strengthen his protest against the resort to metaphysical principles by a simile, when he asserts that by the same method upon the frequent recurrence of good luck in games of chance one might prove with equal probability the co-operation of a Fortuna or a *spiritus familiaris*. In the first place, there is here wanting the elimination of constant material causes presupposed by me in my discussion, *i.e.*, before such inference to a Fortuna an exact investigation must be made whether the dice or the arrangement of the game of *rouge et noir* is not affected by errors which act as constant causes. But suppose this inquiry were carried out with extreme precision, and had

yielded a negative result, nothing, in fact, could be alleged against the inference to a Fortuna as constant cause save the circumstance, that the non-existence of such a mythological personage has on other grounds a considerably greater probability than the evidence for its existence furnished by the game. That this is actually the case it will not be necessary to prove; but precisely on that account the example can prove nothing against the introduction of impersonal metaphysical principles for the explanation of the processes of organic formation, since for the non-existence of these such an overpowering probability is by no means established. Lange has, therefore, by no means, as he purposed, pointed out a methodological error in my explanation, but he has only revealed the blinding power of the materialistic prejudice by which he is possessed.

But now it is further to be considered that the parallel drawn between a man winning ten times in succession and the origin of organic fitness in Nature proves nothing for an altogether different reason, in that, namely, Lange speaks only of *one* man who gains in a single case ten times in succession, whereas the marvellous conjunction of the conditions of organic adaptation is repeated in *innumerable* cases simultaneously and successively. That this particular man is favoured by a Fortuna would only be a conclusion analogous to that of a purpose in organic Nature, if this man not only gained in *one* game ten or twenty times on doubling his stakes, but had this unheard-of luck his whole life long on all the gaming-tables of the world, and if a failure of this unheard-of luck belonged in his case as much to the class of exceptions as abortions to the exceptions of purposive organic formation. Conversely Lange would only then be right that the reality of the *a priori* improbable in organic Nature does not summarily compel the regressive inference to a constant cause, if the occurrence of this *a priori* improbable harmonious fitness were as rare an exception among innumerable un-

successful malformations and deformities as the ten or twenty times successive gain is a rare exceptional case in games of chance (altogether corresponding in the degree of its rareness to the *a priori* theory of probability). This colossal difference is so evident as to make its oversight by Lange very surprising; it would by itself suffice to render impotent all the attacks of Lange upon my exposition.

P. 71, last l.—These remarks must suffice as a justification that no other term than "Will" has been selected for the designation of the single principle undoubtedly underlying all the manifestations of the volitional sphere. This term, rightly hit upon by Schopenhauer, only met with such violent opposition in the philosophy of the schools, because the psychology of the latter was entirely confined to the department of *conscious* psychical activity, and aimed at detaching this as something specifically higher and alien from its unconscious natural basis, so that the extension of a term chiefly borrowed from conscious mental life to unconscious psychical functions appeared to it a crime against the majesty of the mind already artificially disengaged from Nature. The more the doctrine of the essential identity of the conscious mind with unconscious Nature has gained acceptance, the more admirers and imitators Schopenhauer's use of the expression "Will" has found. (Comp. Göring, "System der Kritischen Philosophie," Leipzig, Voit & Co., 1874, part i. chap. iii., especially p. 68–71, where various objections to the conception of unconscious will are refuted.)

P. 74, l. 34.—If recent investigations have shown that in certain parts of the cerebral hemispheres there are also found motor nerve-endings, yet the following sufficiently weighty arguments taken by themselves are not thereby affected.

P. 77, l. 2.—In order that a movement may ensue correctly, *i.e.*, in the right proportion of the intensity of all its components, a clear perception of the position of the

particular bodily parts must not only be present at the beginning of the movement, but also during the successive moments of execution; it is, however, requisite for this that both the sense of touch as well as the muscular sense (or muscular feeling) be correctly functional. Only when the right feeling of the position of the parts is given (for the rest, this feeling need not take place in the cerebrum, but will usually have its material substratum only in the cerebellum, optic thalami, or corpora striata), only then can the degree of motor innervation be rightly estimated, and be controlled by a comparison of the perceived feeling of muscular movement during the nearly completed movement with the muscular feeling anticipated by the idea, *i.e.*, be strengthened, or hindered, or modified during action. Thus undoubtedly the muscular feeling anticipated by the idea (but only through the controlling comparison with the muscular feeling perceived before and during movement) can serve as *regulator* of movement, but the regulator is something different from the producing or impelling factor, and from that which directs the impulse of innervation to definite nerve-endings and determines the quality of the movement. Maudsley calls the latter element "*motor intuition or percept*," distinguishing it (Physiol. of Mind, p. 465) just as much from the conscious representation of the intended movement as from the muscular feeling, and assumes that the receptive muscular feeling is indeed necessary for its origin and elaboration (in man perhaps, certainly not in animals), but that it is necessary neither for the latent existence nor for the active function of the motor intuition, inasmuch as the necessary regulation by the muscular sense may be provided for by another sense, *e.g.*, the visual sense (comp. above in the Appendix, p. 261–262). Maudsley holds the intervention of the intuitions of movement to be just as indispensable in the reflex action following on a sense-perception as in voluntary movement after a conscious idea, and regards it as self-evident that these motor intuitions are *unconscious* ("Phys. and

Path. of Mind," pp. 177 and 187). By the latter, however, he understands only molecular predispositions, that are functional without consciousness, at least without coming into the consciousness of the cerebral hemispheres. That such predispositions co-operate in the production of voluntary movements at the most diverse places of the central organs of the nervous system is, of course, not to be disputed. Indeed, in the complicated action of lifting the finger, every nerve-fibre and every ganglion-cell which is irrigated by the current of innervation issuing from the cerebrum displays its special inherited or acquired molecular powers, and only by such participation of the subordinate nerve-centres does it become possible also in voluntary movements for a *single* impulse of innervation issuing from the cerebrum to bring about so complex a result of aptly compounded muscular actions. The main difficulty still remains, how the ideational cells in the cerebral hemispheres are to send forth, conformably to the ideal content of the particular ideas, impulses of innervation, which are distinguished not only by the intensity and quality of the innervation, but also by the different *direction* of the emission, so far, namely, as the terminations of the fibres to be in each case affected are to be sought at different places of the cerebrum. It is the translation of the ideal matter of representation (the words, "little finger" or "fore-finger") into mechanical action, which will for ever render futile all mere mechanical explanations.

P. 80, l. 14.—In a depreciatory criticism in "Ausland," 1872, No. 40, in which J. H. Klein, from the standpoint of natural science, breaks his staff over the Philosophy of the Unconscious, the foregoing passage is particularly cited as a *glaring proof* of the frivolous superficiality and worthlessness of my work (p. 939), and Darwin's exact method of investigation held up to me as a model (p. 943). Here Herr Klein has only made the little mistake of overlooking that, precisely in the point attacked, not

only Darwin entirely agrees with me, but also the most important of the examples quoted (as well as those on p. 81) are borrowed directly from Darwin's "Origin of Species." Herr Klein further warns every one against a philosopher who so far contradicts himself as to assert at the beginning of a chapter that *different* instincts appear with a like bodily constitution *in* DIFFERENT *species*, and at its close tries to prove why *within* THE SAME *species like* instincts must follow from like bodily constitutions (p. 941). "May God protect exact science from such superficiality!" (p. 939).

P. 102, l. 18.—The garden spider goes into the rain-corner of its web a day before change of weather, and begins a day before the return of fine weather, perhaps already in the midst of rain, to examine its web. "Fine weather, however, does not then last long. Sometimes the spider pulls its web to pieces, and then builds an entirely new one. This is a sure sign of fine weather. With more exact observation it may be discovered that the web is not always similar; its meshes are now wider, now narrower. If they are wide, it is a sign that fine weather will at the most last five days, but if they are close, one may safely reckon on eight fine days" ("Ausland," 1875, No. 18, p. 360). One easily sees that for the catching of flies the closer web is certainly the more advantageous, but that in consideration of the destruction of the web by rain and wind there is necessary for the spider a certain frugality in the employment of the productive power of its spinning glands, which is estimated according to the future state of the weather.

P. 131, l. 27.—The sensation of black is, namely, the sensation of that process of chemical restitution or recomposition of nervous matter which is opposed to the process of consumption or decomposition appearing in consciousness as sensation of white (according to Hering's physiological theory of light and colour, comp. "Naturalist," 1875, No. 9). The chemical recomposition of all nervous matter

(and especially of the conducting fibres) is, however, 'stimulated and guided by centrifugal currents of innervation from the particular centres, and we become partially conscious of this current of innervation in sense-nerves terminating in the cerebrum as attention (comp. above, p. 282–284). It is thus one and the same thing whether we say: In nerve-fibres without terminal organs of visual perception, or in the parts of the retinal image represented by no primitive nervous fibres the corresponding recomposition is wanting, because the external occasions to decomposition are wanting; or whether we say: When centrifugal sense-stimuli are never conducted, no centrifugal current of innervation can come to pass, which, indeed, must first arise reflectorially.

P. 139.—I can now no longer look upon the example quoted as stringent proof of what should be proved at this place; for in fact, even in the normal state, besides the one main path of reflexion (which leads by the shortest route from the place of insertion of the sensory to that of the motor nerve in the grey matter of the spinal cord), there exist a number of side-paths of greater or less resistance, which are brought into requisition according to the varying amount of the stimulus and the irritability. If, now, the main path is destroyed, the branch paths become functional, when either the applied stimulus is adequate or the irritability of the spinal cord sufficiently increased. (The latter takes place partly by means of strychnine, partly by the separation of the spinal cord from the brain and its inhibitory influences.) But it is noticeable that the side-paths pass through more central places of grey matter the more circuits they make, and that every passage of the excitation through grey matter (on account of the inhibitory influences and specific stores of energy ready for liberation contained in the ganglion-cells) is no longer simple conduction, but itself again a reflexion.

The greater circuit, therefore, a stimulus makes before it again emerges as motor reaction, the more complicated becomes the composition of the total reflexion from a whole series of simple reflexes, in each of which the problem of the inner psychical aspect and purposiveness of the reflex is repeated. Consequently, if the above example does not directly prove what it ought to prove, it yet tells far less for the opposite purely mechanical conception, but leaves the problem recurring at every moment always open. But this problem is hereby resolved, that the purposiveness of the reflex mechanisms has itself been gradually brought about, and is teleologically modifiable; that the existing dispositions or accessory mechanisms have themselves only arisen through a sum of purposive functions, which were possible *without* these mechanisms; and that they continue to readjust themselves by suitable modification of the functions, which with frequent repetition produce a modification in the existing molecular dispositions.

P. 142, last l.—Compare this chapter with the Appendix, especially Sections 3, 4, 5, 6, and 11.

P. 157, l. 6.—The conspicuous statements are taken from Burdach's "Physiology." If in the given form they do not appear altogether tenable before the tribunal of the physiology of the day, this does not alter the general fact under discussion. It is precisely modern physiology which sees itself more and more driven to the recognition of vicarious functions, and biology finds in the theory of descent and the gradual differentiation of the various organs from original homogeneous tissues the key to the possibility of those occurrences, which appear from this point of view as a kind of ancestral reminiscence on the part of the tissue of a phylogenetic period of development, when the division of labour in the organism had not yet progressed so far.

P. 161, l. 2.—The preceding passage, which already appeared in the first edition of this work, is the clearest

proof how little they have understood the purport of my theory who imagine I desire in any case *to supersede* or *set aside* physico-chemical explanation employing efficient material causes by metaphysical explanations. Nothing is further from me than an undertaking so senseless and so inconsistent with the spirit of modern science. On the contrary, *no* speculative philosopher has *ever* so readily acknowledged the independent claims of Physical science and rated their value as highly *as I* myself, who hold it to be the undoubted and hopeful task of physical science to investigate the efficient material causes of material phenomena, and who esteem it the "*duty*" of the investigator of Nature, as such, not to be led astray in this search after efficient material causes by the intermixture of metaphysical, teleological, or other principles of explanation. This recognition of physical science in the department of material phenomena and their causal connection cannot, however, blind me (like some "modern" philosophers) to the perception that neither do material phenomena *exhaust* the phenomenon of cosmic existence, nor the causal connection, as such, the cognition of the material phenomena in their property of uniformity; that thus *beyond* natural science and its solutions *yet other problems* await solution. Now so far as a natural philosopher claims to be at the same time "*homo sapiens*," *i.e.*, a cultured and thoughtful man, one *must* require of him that he be conscious of the *limits* of his special science and their *non-coincidence* with the limits of human knowledge in general, and foster even a certain general human interest for more general philosophical efforts. On the other hand, it is not to be required of any man who does not claim to be a scientific specialist that, in occupying himself with certain problems, he should especially aim at extending the present field of natural scientific knowledge, *i.e.*, search after a causal explanation of material phenomena by material causes

beyond the measure of the enlightenment afforded by contemporary science. He will leave *this side* of the scientific physical problem of humanity to the specialists, and be by no means hindered by this renunciation, but rather placed in a better position to devote his full powers in a fruitful way to the other side of the problem, which just as little allows of neglect. But when natural philosophers so much mistake the state of affairs, that they account any application of philosophical principles of explanation and every personal renunciation of independent investigation in the sphere of natural science as a kind of sin against the Holy Ghost, one can only as much lament such a professional limitation of the field of view as the terrorism which many champions of this school exert on public opinion, not without a certain success in confusing the public mind as to what really constitutes the genuine "scientific spirit." It seems high time to openly protest against this terrorism, and to point out earnestly and emphatically to the credulous victims of popular scientific lectures and journals, that physical science and its strict inquiry into material causes is always only *one* aspect (and that, too, *sub*ordinate to the mental sciences) of science in general. Otherwise there is danger lest physical science may in our own time strive after an autocracy just as unjustifiable, and, if possible, still more dangerous, than that actually possessed by theology in the Middle Ages.

P. 181.—Maudsley says in his "Physiology of the Mind," p. 118, "The idea that vomiting must take place when a qualmish feeling exists will certainly hasten vomiting, and there is a very remarkable instance in the *Philosophical Transactions* of a man who could for a time stop the motion of his heart by composing himself, and then either conceiving vividly or directly willing what was to happen. There are examples of the influence of ideas upon the involuntary muscles, and they accord with what has been previously said of the subordination of the organic nerve-centres to the cerebro-spinal system. Some people even

are able, through a vivid idea of shuddering or of something creeping over their skin, to produce a *cutis anserina* or goose's skin. The immediate effect of the idea in this case, however, is probably to excite the appropriate sensation, which thereupon gives rise to the sequent phenomena.

"Examples of the action of ideas upon our voluntary muscles are witnessed in every hour of our waking life. Very few, in fact, of the familiar acts of a day call the will into action: when not sensori-motor, they are usually prompted by ideas."

The unconscious influence of fancy in dreams is very clearly manifested even in those persons who are not sufficiently nervous in the waking state to collect decided experiences in this respect in their own person, where, *e.g.*, the dream-idea of being injured or wounded at particular parts of the body can excite clear local sensation of pain, which disappears on waking.

Although I think I am able to give a thoroughly natural explanation of cutaneous bleedings by the influence of fancy, yet in presence of the religious vertigo which has recently again manifested itself in connection with this subject, truth requires the admission, that, according to my more exact information, no case has hitherto been established where the phenomena in a stigmatic have been scrutinised and pronounced spontaneous bleeding by physicians unprejudiced (*i.e.*, inaccessible to Catholic sacerdotal influence) and of the first scientific rank. On the contrary, several cases have been made public where such an inquiry has proved the object of religious superstition to be the result of an illusion (comp. "Deutsche Klinik," 1875, No. 1–3; "Louise Lateau's Three Predecessors in Westphalia," by Dr. Brück, Member of the Sanitary Board). It is at the same time by no means necessary to imagine deceit in the ordinary sense, although its possibility is not excluded. The persons of whom such bleedings have been related are almost without exception

hysterical women, with thoroughly ruined nervous systems and more or less deranged mental constitutions, who are swayed by perverted impulses, and in regard to the usual significance of their actions cannot be called accountable. The instinctive cunning and love of dissimulation in the female character, which in such individuals is for the most part abnormally developed previous to their illness, is in the condition of hysteria directed to apparently quite senseless objects, and often calls forth an astonishing ingenuity in order to deceive in a perfectly purposeless way even the nearest. It is quite common for the natural feminine vanity to throw itself in such cases upon the morbid condition itself, in order to arouse interest through the unusualness of its phenomena, and not rarely is united with this the perverted impulse of self-injury and physical self-torture, in order to revel and luxuriate in the imagination of an imposed martyrdom. Even the soberest and calmest spectators are usually almost impotent in presence of such hysterical derangement; one may imagine how easily a sympathetic environment may strengthen the whims of the patient, and convert them into real fixed ideas. Over and above this, there is usually found in a family where such a morbid character arises an hereditary disposition, which appears in less degree also in other members of the family. If, then, a mother or sister gives herself up to admiring and fostering the perversities of the sick person, she not only confirms her in her delusions, but probably helps the realisation of her hysterical tendencies, *i.e.*, becomes an accomplice in the eventual delusion. Now as madness in the female sex—both real and hysterical madness—for the most part gravitates only in two directions, in the sexual or in the religious (or in both simultaneously), it is evident that nothing must be more suited to strengthen and to guide into special channels such perverted tendencies than a religious exaltation, and specially the amalgamation artfully nourished by the Catholic Church of sexual excitement, delight in cruelty, and religious ecstasy,

caused by the ardent absorption of the phantasy in the tortures of the heavenly bridegroom. Add the priest, who supports the unfortunate one in her delusion, and probably declares the self-inflicted injuries, into which the spiritual revelling in martyr-agonies explodes in the state of over-strain, to be symbolic signs of divine grace, then the sick person readily enough believes she is following a direct divine behest by frequently evoking these symbolic marks, and may very easily, in spite of her objective fraud, have the firm subjective conviction of being a selected instrument of divine grace when she sees the religious effects which she exerts on the credulous who flock to her. Everywhere where priests are behind the scenes one may assume it probable at the outset that this is the true state of the case, and the probability of an objective delusion becomes certainty if, beside the stigmatisation, other phenomena are related which contradict the laws of organic life (*e.g.*, the year-long abstinence from food in the waking state). But it is not these unfortunates who should be relegated as impostors to the house of correction, where several of them have been incarcerated, but the priests, to whose shameless love of domination even the morbid obscuration of the human mind serves as a welcome means to more surely befool the masses they have cunningly stupefied.—For the rest, these remarks are not to be taken as deliverances on the possibility of spontaneous cutaneous exudations, but only to protect myself from being quoted as sponsor for ultramontane sacerdotal craft.

P. 182, last l.—Many cures are only seemingly sympathetic, inasmuch as remedies are applied whose medicinal effect is not known, either merely by the parties concerned or even by the faculty of medicine of the day. Such co-operating causes are excluded in sympathetic cures by mere conjuration. The best accredited and most striking effects of conjuration may well consist in the stopping of bleedings (contraction of the veins and capillaries by the

nervous agitation of the charmed person) and in the assuaging of pain caused by burns.

P. 200, l. 35.—Comp. Ernst Häckel's "Anthropogenie, oder Entwickelungsgeschichte des Menschen," Leipzig, Engelmann, 1876.

P. 202.—With regard to the critical objection that in this chapter the clues afforded by Darwinism with respect to the origin of purposive adaptations in organisms are left unnoticed, the following is to be observed. Darwinism, even if it were right in all its assertions, offers *at the most* an explanation why the fertilised ovum brings with it this or that constitution for its ontogenetic course of development; this individual development itself, however, *it does not discuss at all*, but assumes it as a physiologically given fact, that such an organism unfolds from such a germ. There is in this, however, nothing but a lack of philosophical wonderment, an incapacity to apprehend the problem. For all phylogenetic development is compounded of a series of ontogenetic developments, and therefore the former can never explain the latter but rather presupposes it, although it is correct that a definite individual development is conditioned in the mode and manner of its course by the phylogenetic development which has preceded it. But the *first* question always is to comprehend how an individual development is *at all* possible; and this problem is altogether independent of the explanation of phylogenetic evolution, which is indeed only compounded of individual developments, as the building of bricks or the plant of cells. Wherefore, also, an independent investigation of the problem of individual organic development is philosophically as much authorised as demanded, quite apart from the question whether Darwinism is right.

Undoubtedly this inquiry must be completed by testing the solution which Darwinism offers of the problem of phylogenetic evolution. This is done in Chap. x. C., and still more thoroughly in my memoir, "Truth and Error in

Darwinism." The result is that all Darwin's principles of explanation are only tenable and available for any sort of explanation of natural phenomena on the *foundation* of a tacitly presupposed but openly rejected "organising principle." At bottom this is nothing more than the confirmation of the *a priori* and self-evident proposition regressively gained by criticism, that all phylogenetic development is only compounded of a series of ontogenetic processes of evolution, and that the ontogenetic development as such is accordingly not explicable from a phylogenetic evolution, but only by an organising principle which guides and secures the purposive (isolated and correlative) variation and transmission.

P. 200, l. 21.—Without question it may be very attractive to analyse psychologically, to classify, and to investigate in their causal relations all the numerous veils and disguises in which the longing after sexual union conceals itself according to the character and the circumstances (as has also been frequently attempted, especially by the French); but even if such a psychology of love succeeded in giving an intelligent account of the whole inexhaustible variety of the forms which love can assume, yet nothing would be thereby gained for the understanding of love so long as the fundamental problem were not made perfectly precise and satisfactorily solved. This fundamental problem of love must, however, of course, turn on that which is not diverse but common, and this common element in the apparently heterogeneous expressions of the one passion is manifestly nothing else but the longing for sexual union. What is problematical in this point is, however, this: how the corporeal or mental, æsthetic or emotional, *pleasure* which one finds in a person can lead to the altogether heterogeneous wish for sexual union with the same, and can increase this wish to a passion? This, and nothing else, is the fundamental problem of love; and whoever does not *perceive* the problem, or whoever does not find anything at all wonder-

ful or *problematical* therein, will least of all be enabled to *solve* it, and all the psychological studies of such a one concerning love can only be a more or less clever prattle on *side issues*. We can only hope for a solution of the problem when the *essence* of sexual love has been rightly apprehended as the longing veiled by more or fewer accessories for sexual union with a particular individual.

P. 242, last l.—Comp. here A. Taubert, "Der Pessimismus und seine Gegner," Berlin, C. Duncker, 1873, No. 4, "Die Liebe."

P. 249, l. 2.—The usual division into sensuous and intellectual feelings and impulses is doubtless warranted, if thereby the different nature and worth of the spheres is sought to be indicated to which the particular feelings and impulses are related through the ideas with which they are connected, but it becomes an unauthorised distinction when it imports more than this qualitative difference of the particular spheres of representation, and is employed to impeach the homogeneity of the will in itself and its satisfaction or non-satisfaction. (Comp. here Göring, "System of Crit. Phil.," part i. chap. vi., "The division of the impulses and feelings into sensuous and intellectual," p. 107 ff.; also chap. iv., "The falsity of the distinction between lower and higher will," p. 78–87.)

P. 249, l. 15.—The more opposition this proposition has encountered, which is so simple, but appears so surprising and almost paradoxical to thinkers unaccustomed to abstracting from the simply concomitant representations of feelings, the more do I rejoice that on this point I can appeal to no less an authority than Kant. He says in the "Crit. of Pract. Reason" (Werke, viii. 131): "The *representations* of objects may be ever so *heterogeneous;* they may be ideas of the understanding, even of the reason, in contrast to ideas of sense; yet the *feeling of pleasure* by whose instrumentality they properly come to be the determining ground of the will (the expected agreeableness, satisfaction, which incites to the production of the object)

is not only of *the same kind*, inasmuch as it can always only be empirically known, but also in that it affects *one and the same* vital energy, which is manifested in the *faculty of desire*, and in this respect *can differ in nothing but degree* from every other determining ground" (that is, from every feeling called forth by another determining reason). "How otherwise should we be able to institute a quantitative *comparison* between two determining grounds altogether different in their intellectual clothing, so as to give the preference to that one which most affects the faculty of desire?"

P. 250, note, last l.—That desire is more original than the state of feeling whose production is desired is shown in numerous cases when violent desire already enters into consciousness in the stage of tormenting unrest, whilst its content or its aim is still completely unconscious. Maudsley says in his "Phys. of Mind," p. 355–356: "In the child, as in the idiot, we frequently witness a vague restlessness, evincing an undefined want of or desire for something of which itself is unconscious, but which, when obtained, presently produces quiet and satisfaction: the organic life speaks out with an as yet inarticulate utterance. Most striking and instructive is that example of the evolution of organic life into consciousness which is observed at the time of puberty, when new organs come into action and exert their physiological influence upon the brain; vague and ill-understood desires give rise to obscure impulses that have no defined" (rather: conscious) "aim, and produce a restlessness which, when misapplied, is often mischievous. The amorous appetite thus first declares its existence. But to prove how clearly antecedent to individual experience it is, and how little it is indebted to the consciousness which is a natural subsequent development, it is only necessary to reflect that even in man the desire sometimes attains to a knowledge of its aim, and to a sort of satisfaction, in dreams, before it does so in real life. . . . These simple reflections might

of themselves suffice to teach psychologists, if they would condescend to them, how far more fundamental than any conscious mental state is the unconscious mental or cerebral life."

The relation of will and feeling and the reasons for the assumption that the latter is to be conceived as a consequence of the former, *and not conversely*, is discussed by Göring, together with a refutation of the contrary opinions, in his "System of Crit. Phil.," vol. i. pp. 50, 60–65, and 89–95. (Comp. also in the same, chap. v., "The separation of the emotional faculty.")

P. 276, l. 3.—In dreams this creative activity is well known to us all. We all possess it, as our dreams prove; but its degree is usually so low that it cannot assert itself in the waking state against the twofold competition of the impressions of perception and of the abstract associations of thought. Accordingly the study of the creations of dream-fancies affords a serviceable preparation and excellent aid to the comprehension of the creations of artistic fancy, although the difference between a thoughtless dreaming and a sober creative fancy must not be overlooked. I refer for these things to the memoir of Johannes Volkelt, "Die Traum-Phantasie" (Stuttgart, 1875), which combines in an equal degree critical sobriety and speculative penetration, and works up everything hitherto achieved in this department (comp. in particular, No. 15, "The Unconscious in Dream-Fancy").

P. 280, note.—What Schiller thought of the Unconscious in artistic production in a *scientific* form appears from his letter to Goethe on the 27th March 1801. He there says: "A few days ago I attacked Schelling for an assertion in his 'Transcendental Philosophy' that 'in Nature a primal Unconscious is to be elevated to consciousness; in Art, on the contrary, the procession is from consciousness to the unconscious.' It is true he is dealing here only with the *contrast* between the products of *Nature* and of *Art*, and *so far* he is quite right.

I fear, however, that 'Messieurs les Idealistes' are so absorbed in their IDEAS as to take all too little notice of experience, and as experience shows the poet likewise begins *with the Unconscious*, nay, may think himself lucky if he only gets so far through the clearest consciousness of his operations as to *re-discover undimmed* in his completed labour *the first obscure whole-idea* of his work. Without such an obscure but powerful whole-idea, which is antecedent to everything technical, *no poetic work can come into being*, and poetry, methinks, just consists in this, in being able *to utter and impart* that Unconscious, *i.e.*, to *translate* it into an *object*. The non-poet may just as well as the poet be affected by a poetic idea, but he cannot *body* it *forth*; he cannot *represent* it with the force of necessity; just as the non-poet as well as the bard may produce a product consciously and with necessity, but such a work does not take its rise in the Unconscious, and does not end there. It remains only a work of reflection. The Unconscious, *combined* with reflection, makes the poetic artist." The "obscure whole-idea" is not to be confused with the unconscious idea, but is already a conscious reflexion of the latter, and not even the first which emerges in consciousness, but is brought about by a vague moody sensation. Schiller was well aware of this also, and expresses it in his letter to Goethe of the 18th March 1796: "In me the feeling is at first without definite and clear object; this is formed only later. A certain musical word comes first, and with me the poetical idea only follows this." He writes to Körner on the 1st December 1788: "Ye critics, or however ye may be called, be abashed or tremble in presence of the instantaneous transitory *frenzy* which is found *in all true creators*, and whose *longer* or shorter duration distinguishes the thinking *artist* from the dreamer. Hence your lamentations over infertility, because ye *too early reject* and too strictly select (*scil.* from among the ideas streaming in *pêle-mêle*)." But not merely the *beginning*, but also the *continuation* of artistic produc-

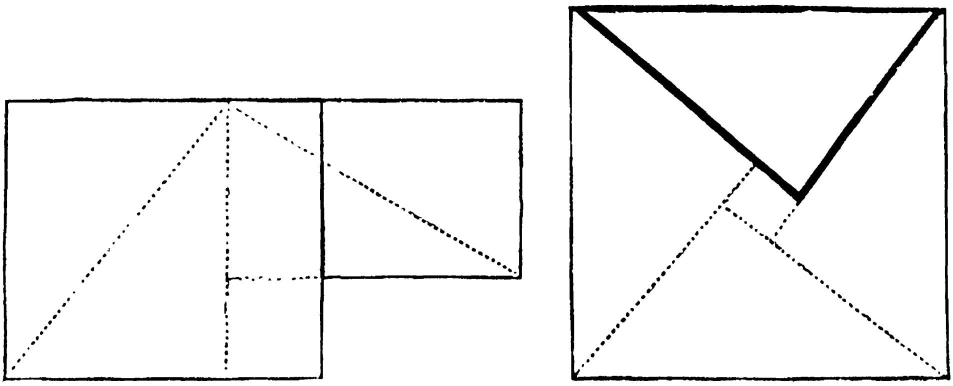
tion appears to him conditioned by the Unconscious, and at the close of the twentieth of his letters on the æsthetic education of mankind he declares "that the mind in the æsthetic condition certainly acts freely, and free in the highest degree from all *compulsion*, but by no means free from *laws*, and that *this æsthetic freedom is only distinguished* from *logical necessity* in thought, and from moral necessity in volition, through the laws according to which the mind proceeds *not being represented*, and because they meet with no resistance, not appearing as necessitation." Whoever in this way draws his poetical ideas from unconscious inspiration, and artistically shapes them according to laws acting unconsciously in him, is a genius. "When the genius has by his products *furnished* the rule, science can *collect* these rules, compare them, and try whether they are to be brought under one more general, and finally under a single principle. But since it proceeds from experience, it has only the limited authority of empirical science. It can merely lead to a *rational imitation* of given cases, but never to a positive extension. All *progress* in art must come from *genius*, *criticism* merely leads to *faultlessness*" (Letter to Körner of the 3d February 1794). These unambiguous testimonies to the truth of the Unconscious are the more valuable as they spring from the self-observation of a great poet, who did not, like Goethe, for instance, draw without effort from the fountain of the Unconscious, but earnestly strove after clearness and thoughtfulness, and wrestled with the artistic form in earnest critical labour, which might not unnaturally have tended to the over-estimate of his reflective industry.

P. 314, l. 29.—It is in ethno-psychological respects extremely characteristic that the treatment of geometry among the Greeks aims at a rigorous discursive mode of proof, and sedulously ignores the most obvious intuitive demonstrations; whereas that of the Hindoos, in spite of an endowment for arithmetic far surpassing the Greeks, is yet entirely based on direct intuition, and is usually

confined to an artificial construction in support of intuition, to which the one word "see!" is appended. The Greeks always aim at strictly proving the smallest step in thought, and often employ ingenious trains of discursive reasoning in proof of the simplest proposition, in order not to be obliged to have recourse to direct intuition, which does not rank with them as proof. Accordingly they have constructed an imposing system of geometry, which at the same time contains a methodical guide to the solution of all problems not admitting of direct treatment. Among the Hindoos, on the other hand, every proof of a geometrical proposition is a happy flash of intelligence, and the various propositions are placed in juxtaposition without any connection; therefore, in spite of their luxuriant fancy and intuitional power, and in spite of their achievements in arithmetic and algebra, far out-stripping those of the Greeks, they never got far in geometry, and have attained only a very imperfect insight into its elements. It must, however, be styled wonderful that Schopenhauer, who had no knowledge of these historical facts, was led by his peculiar kinship with the Indian mind to make demands in reference to the treatment of geometry which must be termed a reawakening of the Indian mode of thought. As our whole modern mathematics has grown out of a synthesis of the Euclidian geometry with the Arabian algebra borrowed from the Hindoos, so at the present time the necessity of taking account in geometry of the Indian element of intuition is becoming more and more recognised on the part of pedagogical science. But although much may thereby be rendered simpler, easier, and clearer, yet the proposal of Schopenhauer to base geometry altogether upon intuition is essentially impracticable, and discursive proof will always have to go hand in hand with this to control intuition.

P. 315.—As an example of what has been said with respect to the Indian mode of treating geometry, we may give the Indian proof of the Pythagorean theorem, of which the

figure of Schopenhauer is only a special case. This proof depends on the circumstance that the square of the hypothenuse as well as the sum of the squares of the other sides is equal to a third magnitude, namely, the quadrupled triangle plus the square on the difference of the other two sides.



As in the equilateral triangle the latter is equal to zero, the general proof takes the form of that for the equilateral triangle (comp. Hankel, "Zur Geschichte der Mathematik im Alterthum und Mittelalter," Leipzig, 1874, p. 209). Without doubt this oldest of all the numerous proofs which have been subsequently attempted is by far the best, because it is the most evident, simple, and instructive. But that it rests on *immediate* intuition will hardly be asserted by any one speaking precisely, since the equality of the two magnitudes in question which is to be proved must always be first *concluded* from their perceived equality with a third, which latter, moreover, is differently presented *to intuition* in the two figures, and is *only* identical *in conception.*

P. 331, l. 11.—To be sure, Schopenhauer submitted to these realistic concessions only in his later period. In the earlier period of his productivity, when he subscribes to a more consistent idealism, he most decidedly denies all causal influence of things in themselves on our faculty of representation (W. as W. and I., 3d ed., i. 516, 581), and thereby logically arrives at a conception of the subjective

phenomenal world of waking life, which is distinguished from that of the dream by no essential mark, but only by the accidental one, that a continuity of connected memory exists between the divisions of the day of the waking life, which is entirely wanting between the nocturnal segments of the dream-life (*ibid.*, i. 21, and Volkelt's "Dream-Phantasy," p. 194–203). In fact, if the transcendent causality of things in themselves on our presentative faculty be denied, all assignable distinction between the objects of the dream and those of waking perception ceases; for the difference of the two kinds of subjective appearance only consists in this, that the instinctive necessitation to the transcendental reference of the matter of consciousness to an existence independent on consciousness is in the *dream* a deceptive *illusion*, in the waking state, however, an instinctive *truth*, which has its real correlate in the transcendent causal action on perception of that which exists *per se* so far as the quality of the objects of perception is conditioned by the nature of that which exists *per se*.

P. 332, l. 5.—Modern Physical Science acknowledges very decidedly a view of the world in which the forms of existence and of movement, Space and Time, have transcendent validity. It assumes (just as Kant and Schopenhauer in his later period) that our sense-perception is certainly in general subjectively conditioned, but that in the special concrete case its occurrence and constitution is determined by the causal action of things, whose existence is supposed to be independent of our perception of the same, *i.e.*, of things in themselves in the Kantian sense. Physical Science knows that all our sense-qualities (Light, Colour, Sound, Heat, Odour, Sweetness, &c.) only come to pass through the co-operation of these things acting on us and our subjectivity; that thus these cannot appertain to the world of things in themselves; nevertheless it asserts that the mode and manner of our concrete sensation may be dependent on the mode of the

arrangement of the constituent elements of things in themselves and the forms of their motion. This hypothesis, which in Physical Science does not pass for hypothesis, but as certainty, however involves the assumption that Space and Time are the forms of existence of this world of things in themselves transcending consciousness. For a definite order or grouping of atoms presupposes the existence-form of *Space;* causal action on the sense-organ at a definite point of time of the subjective flow of ideas the form of *Time* as transcendent real form of the action of things in themselves; and the forms of (mechanical and molecular) *motion,* from which arises the grouping of the atoms at any point of time, and on which depends the mode of action of the complex of atoms on our sense-organs, can manifestly only be conceived as real processes transcending consciousness if the forms of which they are compounded, *i.e.,* Space and Time, have transcendent validity. Thus the scientific world of the self-moving atoms, on the one hand, is, in fact, a world of things in themselves in the Kantian sense, and, on the other hand, a world in the forms of Space and Time. It is not a subjective phenomenal world, for atoms have never manifested themselves to any physicist. It is *intelligible* in the Kantian sense, so far as it lies *beyond* the possibility of all experience, and is a world existing *in and for itself,* whose existence and inner movement is assumed to be thoroughly *independent* of any representation of a consciousness. It is thus in *every* respect only to be styled a world of *things in themselves,* and as such it can indeed *only* be justified if the object of its supposition be to *explain* the transcendental objectivity of our phenomenal objects and the transcendent conditionality of our perception. But, nevertheless, it is a world *of space and time,* and can only be such if *anything* is to be at all *explained* by its assumption. Let the atom be denuded of its materiality and deprived of extension, thus be spiritualised into the immaterial monad, it yet always retains its punctual

place in relation to other atoms, its distance from them, its direction and velocity in approximation and removal from them, thus purely spatial and temporal determinations. Should Physical Science try to make the attempt to denude the atoms of these determinations also, all possibility of an explanation of subjective phenomena would be *cut away*, thus the hypothesis of a real world of atoms would have *all scientific ground withdrawn from under its feet.* A spaceless and timeless world of spiritual monads would *ab initio* render any Physical Science impossible, and all scientific explanations based on the opposite assumption would then not only be valueless, but even *vicious in principle.* In fact, a world of spiritual monads without Space and Time (or vicarious forms of existence and motion) is also metaphysically impossible, since the Absolute Spirit before its outward *action* in Space and Time is unfolded neither *actually* nor *plurally.* Space and Time are the forms in which the All-Spirit *realises itself* in manifold existence from its essential unity and ideality; they are the forms of its self-individualising manifestation, in which its essence is revealed or appears.

It is accordingly no wonder that the investigators of Nature themselves, with their confused perception of the problems of the theory of cognition, should regard the scientific view of the world now in a realistic, now in an idealistic sense. If one starts with the view that the transcendent real world is devoid of light, colourless, soundless, &c., nay, even non-material, and consists merely in a magical play of imaginary points, one may well be inclined with Kant to seek reality in empirical perception as subjective phenomenon, and to regard things in themselves as a transcendent province of intelligible things of thought and properly unapproachable. Conversely, if one starts from this, that the predicate of reality can only be assigned to a thing existing in and for itself, *i.e.*, independently of every consciousness representing it, there is no doubt that *not* the ever-shifting *subjective* phenomenal world of consciousness,

but the world of the complex of atoms existing of themselves or the world of the *objective* phenomenon of the world-essence is to be styled real, the more so as it (just as the subjective phenomenal world) subsists in the forms of space and time, and the phenomenal objects of consciousness only receive a real objectivity by being transcendentally referred to the immediately real things in themselves, and have a practical and epistemological meaning for consciousness simply as representatives of these latter. Thus the scientific cosmic theory, when looked at more closely, wears indeed the air of a *transcendental realism*, which has as much risen above *subjective idealism* (which in strictness declares the thing in itself to be a mere negative limiting notion, an indestructible illusion of our waking as of our dreaming consciousness) as *naïve realism* (which converts uncritically the objects of the subjective phenomenal world into absolute things in themselves). *The same consequence* of a transcendental realism results from a critical development of the philosophical theory of cognition, as I have shown in my writings, "Kritische Grundlegung des transcendentalen Realismus," and "J. H. v. Kirchmann's erkenntnisstheoretischer Realismus," so that in this department also the full agreement and union of Philosophy and Physical Science, here too so long at variance, is now restored.

P. 341, l. 36.—Compare with this statement and that on p. 309, l. 13, vol. i., the similar view of Lotze on the *a priori* in his "Logik," book iii. chap. 3, particularly p. 520.

VOL. II.

P. 50, l. 23.—(Comp. also vol. i. pp. 98 and 133.) Time, as we saw, vol. i. p. 346, first enters into the psychical processes through the continuance of the molecular

vibrations. When, *e.g.*, a stimulus is propagated by a sensory nerve to some point in a centre, there felt, translated into will and propagated as motor impulse by motor paths to the muscles, the time of conduction in the sensory nerve as in the motor nerve is to be deducted from the total duration of the reflex process. There still remains the time which is required in the ganglion-cells of the centre, first, to extinguish the conveyed stimulus by the inhibitory influences (period of latent stimulation), and, secondly, to allow the exciting forces to increase until they have reached a degree sufficient to innervate the motor nerves (this degree might be termed the threshold of motor innervation). The sum of the two latter times constitutes in physiological language the central period of reaction. It is considerably augmented by the circumstance that a single ganglion-cell does not suffice for a reflexion, but several always participate, so that in each extinction of the stimulus and discharge of the stored-up energies is repeated. The reaction-time becomes a minimum when the places of insertion of the sensory and motor nerve (as in the spinal reflexes) lie very close to one another; it is augmented in proportion as more ganglion-cells are traversed by the stimulus before the same is outwardly discharged as motor impulse. The latter retardation attains its maximum in the cerebral hemispheres and their elaboration of the conveyed impressions by conscious reflexion. The fluctuating, hesitating, and doubting is of longer duration the more cells are drawn into action, *i.e.*, the further the reflexion is spun out before the resolution to act is taken. But with all that, each single action of the Unconscious woven into this process is *timeless*, *i.e.*, in each single cell there is no time to be interposed *between* sensation and will, although both, in consequence of the repeated molecular undulations, possess a certain *temporal extent*, which may in part be coincident (as the duration of every cause coincides with that of the effect to the merest fraction).

P. 86, l. 5.—Comp. the preceding addendum to p. 50, l. 23.

P. 89, l. 5.—If we enter more minutely into the physiological aspect of the question, in place of the atom, the ganglionic cell, as indivisible nerve-element with an indivisible consciousness, is the order of individuals to be particularly taken account of. The ganglion-cell possesses a certain individual force or individual will, which, through its individual character (or, in physiological language, through its inherited or acquired specific energies), is led to manifest itself in certain favoured directions. The satisfaction of this individual will can, as we shall soon see, only be felt as pleasure by reflective comparison with the pain of non-satisfaction; the repression of the same, or the suppression and enforced inhibition of its manifestation makes itself, on the contrary, immediately perceptible as a painful feeling (qualitatively coloured by unconscious representations). Now we know from the Appendix that the satisfaction of the individual will of a ganglion-cell, or, in physiological language, the actualising of its predispositions in specific energies, consists chemically in a *decomposition*, *i.e.*, that the discharge of force or transformation of tension into *vis viva* is effected by a decomposition of complex chemical compounds into simpler ones. Chemical combination, whereby the tension or store of work is accumulated as a normal process of nutrition, proceeds in the state of repose so slowly in comparison with the suddenness of the discharge, that at each single moment without doubt the threshold of consciousness (at least for the collective consciousness of the ganglion-cell) is not overstepped. It is otherwise if an external stimulus is conveyed to the cell through the immerging fibres. In this case the stimulus is mainly extinguished by the inhibitory influences, and only secondarily after an interval, during which the stimulus has become latent, does the cell answer by an active discharge of force. The stimulus consists in a current of innervation, *i.e.*, in a series of impulses of vital force. That this *vis viva* is extin-

guished or absorbed by the inhibitory influences of the cell physically only admits of the interpretation that it is transformed into tension, and this transformation is compressed into a space of time sufficiently confined to be felt as contrast to the natural direction of the individual will, *i.e.*, as pain. The qualitatively coloured pain thus felt acts now as motive to the manifestation of will, and the reaction of will is, as it were, the attempt to free oneself from the pain of the imposed constraint. This second phase of the reflex process in the ganglion-cell does not, in the first place, enter into consciousness by itself, but only so far as the painful feeling is paralysed and disappears from consciousness through the satisfaction of the manifestation of will or discharge of force. The matter of consciousness is thus essentially composed of sensations, which arise through the extinction of inflowing stimuli in ganglion-cells by means of their inhibitory influences.

On the other hand, the mere process of *conduction*, so far as it is understood as mechanical propagation of the received stimulation without absorption and active regeneration of living force, cannot lead to the genesis of sensation,[1] at least not of sensation in nerve-elements, but at the most in the atoms constituting them (where the absorption and regeneration of *vis viva* is to be traced in each single vibration). Accordingly, it might seem as if the nerve-fibre, as such, were incapable of sensation, because it only mechanically conveys the peripheral or central energies of stimulation. But we have already seen in the Appendix that the nerve-fibre also possesses a store of force of its own, which it sets free as the result of stimulation, and that in its course

[1] Maudsley says, *op. cit.*, p. 305: "When the whole energy of an idea passes immediately outwards in ideo-motor action, then there is scarce any, or there may be no, consciousness of it; in order that there may be consciousness of the idea, it is necessary not only that its excitation reach a certain intensity, but that the whole force of it do not pass immediately outwards in the reaction. . . . The persistence for a time of a certain degree of intensity of energy in the ideational circuit would certainly appear to be the condition of consciousness." This is, however, only possible if the energy of the stimulus is absorbed by the cell, *i.e.*, converted into tension.

a part of the stimulus is absorbed. Only the tendency to decomposition is in the fibre far greater than in the cell, and at the same time the store of active force and the inhibitory influences far less than in the latter. On the other side, it would be an extravagant idea if we believed that in the ganglion-cell the *whole* living force of every stimulus is annihilated, and the reactive innervation generated afresh exclusively from the existing store of force; rather is this only an extreme case for a cell destined solely for central functions. But at the same time all ganglion-cells are also more or less predisposed for direct conduction (*e.g.*, all bodily pains are conducted through the grey strands of the spinal cord to the brain, whilst the white strands only conduct the painless sensations of the tactile and muscular sense). The oftener a ganglion-cell has conveyed a stimulus in a particular direction, the more is it accustomed to this path, and with the less expenditure of its own energy does it perform its work, *i.e.*, a so much larger part of the received energy of stimulation it propagates unabsorbed, and a so much smaller part of the energy of stimulation it absorbs, to replace it from its own resources. The less, however, the absorbed part of the energy of stimulation becomes, the weaker becomes the sensation, *i.e.*, the sensation is the more enfeebled in the passage of the stimulus through a cell, the more the cell is exercised in conducting in this particular direction, and sinks with a certain degree of exercise below the threshold of consciousness. This exercise is, however, always related only to a particular kind (form of vibration) of stimulus, and must be acquired anew for a newly occurring unwonted kind of stimuli. Thus then is it also possible that the absorbed part of the energy of stimulation in the nerve-fibres remains for the ordinary kinds of stimuli under normal circumstances below the threshold, whilst the nerve-fibre may again bring into use its capacity to feel, either if unusual stimuli are conveyed to it, or if it is placed under abnormal circumstances (*e.g.*, through the enhance-

ment of its irritability in consequence of separation from its centre).

The physiological mode of looking at the matter, therefore, altogether confirms the above supposition that it is the collision of two wills opposed in their content from which consciousness springs. The individual will of the nerve-element is disturbed in its equilibrium by the will of the stimulus invading its repose; the elastic interception of this disturbance is the absorption of the stimulus by conversion of its *vis viva* into tension, a self-preserving process on the part of the cell that is diametrically opposed to its tendency to will-manifestation, *i.e.*, to the discharge of its tension into living force. The conflict with the individual will, the forcing of the same from its position of equilibrium into the direction opposed to its own tendency, is felt as pain, and the restitution, or the second act of the self-preserving process of the nerve-element, is the discharge of the reaction, which at first aims only at the restoration of the state of equilibrium; but, the opportunity for the manifestation of will once being given, goes beyond the state induced by the stimulus, namely, discharges an excess of tension accumulated by nutrition.

P. 93, l. 18.—Comp. on this section my "Erläut. zur Met. d. Unb.," p. 42–49.

P. 118, last l.—Comp. my "Erläut. zur Met. d. Unb.," p. 49–51.

P. 148, l. 23.—According to recent investigations by Kleinenberg ("Hydra," Leipzig, 1872), the differentiation of the protoplasm into nerves and muscular fibre already begins with the Hydra or the fresh-water polypes, but in such wise, that it is the *same cell* whose peripheral rotund form plays the part of a sensitive cutaneous cell, whilst its central fibrous processes serve as the contractile element, *i.e.*, as prototype of the muscle-cell, in that they are excited to contract by the external part. Kleinenberg has called these cells "neuro-muscular cells." They exhibit

the transition from the more lowly organisms, in which all parts of the protoplasm of a cell *uniformly* act as nervous and muscular elements, to the higher ones, where the functions are not merely distributed to different parts of the same cell, but the different functioning elements have become differentiated into separate cell-layers.

P. 155, note, last l.—An attempt to eliminate the concept of force from molecular physics has recently been made by Alexander Wiesner ("Das Atom," Leipzig, 1874); as, however, in this writer philosophical acumen and mathematical aptitude are alike wanting, and his explanations, regarded even from a purely physical point of view, appear but little tenable and plausible, the development of molecular physics is hardly likely to be furthered by this attempt. Although Wiesner is perfectly clear as to the necessity of removing the idea of matter from the atom, yet a certain remnant thereof remains clinging to his atom, because with the reduction of all force to energy of motion there would otherwise remain no subject of the motor function. The attempt to regard the corporeal atoms as the converging, the ether as the sphere of the parallel atoms, can hardly claim serious consideration, especially as all coercive force is wanting to the united atoms.—Another and far more important memoir by A. Pfeilsticker bears the title "Das Kinetsystem, oder Elimination der Repulsivkräfte und überhaupt des Kraftbegriffs aus der Molecular-Physik" (Stuttgart, 1873). Here, however, the author would be misunderstood if the title were thought to imply that the writer denies the concept of force altogether. The author's intention is only the perfectly proper one, to take the idea of force out of the sphere of mathematical physics as such, simply to hand it over to metaphysics, and in the mechanics of the atom, *in place* of force, to be satisfied with its most direct expression, acceleration. The work performed by a force is most directly measured by the magnitude of the acceleration called forth by it in other atoms; mechanics,

therefore, needs the *standard* for the *magnitude* of the force as *surrogate* of the idea of force itself. In this, as we know, there is nothing new, and Pfeilsticker merely makes use of a certain modification in the meaning of certain expressions and formulæ in order to make more complete the agreement between the metaphysical idea of force and its mathematical surrogate. It does not, however, occur to him to deny that the "property" of an atom "to cause changes of movement according to certain laws" in other atoms (p. 14) must be philosophically retained as metaphysical cause of these uniform changes of motion, *i.e.*, as *force* behind acceleration.

P. 158, l. 15.—It used to be assumed that the ether alone filled up the space between the celestial bodies. This view is, at the present time, more and more receding before the other, that the permanent gases in a state of extreme attenuation occupy this intermediate space. That the intervals between the planets are filled with permanent gases may at the present time be assumed as tolerably certain, but that also between the several suns of our world-lens the corporeal molecules of the gases are not wanting can now likewise be regarded as probable. Accordingly, if the ether has lost its importance as a hypothetical medium for the filling up of cosmic space, it has in compensation continually gained in recent times in significance as an hypothesis for the explanation of the constitution of matter. Edlund's remarkable "Theory of Electricity," for which I venture to prophesy an important future, rests on the assumption that the non-electric state of a body is the condition of static equilibrium between the ether-atoms contained in it and the whole of the ether outside it, whilst positive or negative disturbances of this state of equilibrium represent the two species of electricity (cp. "Naturforscher," 1872, Nos. 21 and 23; 1873, Nos. 24, 39, 41). The propagation of the light-vibrations, whose transversal direction must pass for strictly proved, is with this state of things only mathematically intelligible if the

atoms which are its substrates essentially follow other laws than the body-atoms subject to the laws of gravitation. Experiments on interference seem to show that the ether as medium of the light-vibrations is to be regarded as at rest in relation to the motion of the earth, so that to our apprehension it seems to stream through the pores of our atmosphere with a velocity which is approximately equal, but opposed to, that of the earth in the mundane space. Recently Maxwell has set up an "electro-magnetic theory of light," which proceeds from the fundamental thought that the medium of electricity and that of light is one and the same medium, namely, the ether (Naturf., vi. p. 159). He has in a theoretical way, as a consequence of his hypothesis, developed the condition that the square root of the di-electric constant must be equal to the refractive power of light; and the empirical confirmation of this law, both for various substances (Naturf., vi. p. 247), and also for different axes of a crystal, by the experiments of Boltzmann is well calculated to give a strong support to the theory of Maxwell. But even apart from electricity and light, the hypothesis of the ether is indispensable for the constitution of the solid, rigid bodies, which can never be explained by merely attracting, but always only by the mutual action of attracting and repelling forces. This has hitherto been recognised by all mathematical physicists; the first interesting attempt to constitute solid bodies merely from attractive forces, and to eliminate the repulsive or ether-atoms from this part of mathematical physics, is that by Pfeilsticker in his memoir "Das Kinetsystem" (Stuttgart, 1873). Unfortunately, however, the suppositions there made (infinity of matter) are of so doubtful a kind, and the indications afforded so scanty and provisional (the memoir is only to be the precursor of a detailed "Kinetology"), that no opinion on the alleged solubility of the problem can be formed. On the whole, therefore, so far the hypothesis of the

repulsive ether-atoms will have to pass for just as well-founded as that of the attractive corporeal atoms.

P. 158, l. 24.—If one recognises the mutual penetrability of the atoms (cp. p. 170), it undoubtedly follows from the consideration of freely mobile corporeal atoms, that they must vibrate through one another without hindrance (because the velocity with which they travel will be infinitely great as the attraction at an infinitely little distance), and after the backward swing must return to their point of departure to begin their play over again (Pfeilsticker's "Kinetsystem," sects. ii. and vi.) A gradual diminution of the amplitude of body-atoms vibrating through one another and final reduction to zero would only be possible with a sort of frictional resistance, which is excluded in the case of freely movable atoms. But the case appears to be different when the empirical fact of relatively rigid combinations of atomic groups is taken note of, however it be explained; for in it there is then given such an arrest of the free movement of the atoms as must finally induce their coming together. If, then, as Pfeilsticker maintains, the rigid corporeal atoms were explicable without repulsive forces, the gradual union of corporeal atoms into a point must also be conceivable, and therefore his assertion seems unjustified that several atoms can only be united in a point if they are originally created in this form. On the other hand, the other remark (p. 29) is excellent, that homogeneous atoms (no matter what their nature), if they are once united in a point, can no longer be separated by internal or external influence, even if they possess no attraction for one another; for every action would always affect both atoms *equally*, thus never be able to produce a different effect in both.

P. 170, l. 10.—My assertion of the perfect penetrability of the corporeal atoms has certainly appeared to many a physicist accustomed to the dogma of impenetrability a philosophical paradox, and it affords me therefore particular satisfaction to be able to point to an authority

like Dr. Albert Pfeilsticker, all whose calculations in his "Kinetsystem" depend on the absolute penetrability of the atoms as on a self-evident supposition. When Dr. Alexander Wiesner in his memoir "Das Atom" (Leipzig, Thomas, 1874) controverts "Pfeilsticker's penetrability theory," he does this simply on the ground of a remnant of the old prejudice of matter that clings to him despite all his protestations, without which remnant nothing "movable" would remain for him, since, as above remarked, he desires thoroughly to eliminate the notion of force.

P. 171, l. 10.—An instructive instance of the fixity of sense-prejudices is afforded by Albert Lange, who, in his "History of Materialism," gives, in a special section, "Force and Matter" (Thomas's trans., vol. ii. p. 351–397, Eng. and For. Phil. Library), an instructive sketch of the historical development of the physical and chemical atomic theory, and of the present views of natural philosophers on the relation of force and matter. He there, so far as criticism is concerned, agrees substantially with my foregoing disquisition; remains, however, almost avowedly wavering between Scylla and Charybdis, because he sees the impossibility of retaining the concept Matter, and yet does not venture to take the only consistent step which successfully solves the problem. He blames Büchner because, from his lay point of view, he "cannot sufficiently free himself from the sensuous idea of compound, apparently compact, bodies, such as our touch and eye present them to us. The professed physicist, at least the mathematical physicist, cannot make the least step in his science without freeing himself from such ideas" (p. 370). The result of his historical exposition comes to this: "That the progress of the science has led us more and more to put force in the place of matter, and that the increasing exactness of research more and more resolves matter into force. The two ideas, therefore, do not stand so simply as abstractions beside each other; but the one is by

abstraction and inquiry resolved into the other, yet so that there is always something left" (p. 379). Nothing could be objected to the last clause if it only meant that in the *previous* phases of molecular physics such an unresolved remainder of matter *has been* left; but it does not follow from that that the process of resolution in question must stop at a definite limit, and *must* for all time necessarily still retain a matter undefinable and valueless for explanation behind the forces alone of account for scientific purposes. On the contrary, the previous course of science undoubtedly demands the making a clean sweep of the last remnant of the sensuous prejudice blamed in the case of Büchner. If matter, as such, is resolved into forces, the substance supporting the force-effects demanded by the nature of our thinking can no longer be matter as such, which is constituted of these force-effects (p. 293, above); but still less can it be the abstract ghost of a matter remaining after the deduction of all forces, the only definition of which is limited to its being a substantial support of the dynamic effects. But if nothing remains of the union of force and matter but the union of force with the category required by thought of substantiality, the problem, insoluble according to Lange, is very easily solved by the simple recognition that it is force and *only* force to which the predicate of substantiality belongs. Herewith the "indispensable" support of the force-effects at once ceases to be "incomprehensible" (p. 395), and the "limit of natural knowledge" erected by sense-prejudice falls away as a mocking subjective phantom. If matter as such *can* not be hypostatised because it is proved to be result of force-effects, if the idea of stuff has been itself volatilised into the mere category of substance, it is, in fact, undiscoverable why it "never at all occurs" (p. 395) to Lange to connect the indispensable category of substantiality with the *only quality* which turns out, on the analysis of matter, to be its real core, namely, force, *i.e.*, to recognise this itself with Leibniz as the true and only substance. The only assign-

able reason for this is, that Lange imagines that he can in his philosophising retain, even in the last and highest principles, sensuous intuitiveness, and with the surrender of these must lose the scientific ground under his feet. This is, of course, a prejudice of the crudest sensualistic empiricism, which has no idea that all science just *begins* with the elevation of sense-intuition into conception. Hence it is but matter of course that his resistance to the surrender of intuitiveness occurs at this point much too late; for the category of substantiality, into which the concept of stuff is for him volatilised, is yet as abstract as possible; and of force, he himself confesses (p. 371) that it "cannot be at all adequately represented in forms of sense: we help ourselves by pictures, such as the lines of the figures in the doctrines of mathematics, without ever confounding these pictures with the notion of force." Had Lange consistently held fast to this simple truth, the false appearance of incomprehensibility arising from the perverse struggling for sensible intuitiveness in the highest principles would have disappeared of itself.

P. 200, l. 27.—Häckel still maintains in his "Anthropogenie" (p. 246) the morphological equivalence of the segments in the articulata and vertebrata, relying on the point that in the embryo of the vertebrate the rest of the vertebræ are ordinarily developed from the anterior vertebræ that are first to make their appearance, as the divisions of the annelids arise by *terminal gemmation.* But "Si duo faciunt idem, non est idem," *i.e.*, the morphological meaning of an ontogenetic metameros is only certainly to be perceived from the phylogenetic developmental history of the same. Here, however, on tracing the annelids to their origin, we find a *chain* of similar individual organisms, whilst the ancestors of the vertebrates nowhere exhibit such a chain, but always only a *single* organism (*e.g.*, Amphioxus), whose cord is ossified at a certain stage of development in order to attain a firmer skeleton, but at the same time is inter-

nally articulated for the sake of retaining greater mobility.

P. 219, l. 19.—Häckel asserts that the homogeneity of the mass in the non-nucleated protozoa is proved by the microscopic observation of the pigment-corpuscles, which have been offered the Moner "to devour," that move unimpeded and uniformly in all directions in the body of the protozoon. Of course, according to this, the truth of the following propositions must be admitted: "Every part may receive and digest food; every part is irritable and sensitive; every part may be moved independently; and every part is, lastly, also capable of propagation and regeneration" ("Anthropogenie," p. 381). Only we must understand by "part" a piece of an empirical size, and by no means a chemical molecule of the albumen in question; only on this supposition can we speak of a homogeneity of the Moneres in contrast to the nucleated Amœbæ, but by no means in the chemical signification of the word. For that even the lowest animals are not "structureless," as a solution of albumen, is manifestly shown by the distribution of the granules through the whole protoplasmic mass. The functions of nutrition, movement, and sensation are also performed in the nucleated cells; not by the nucleus, but by the nucleated protoplasm, and only the function of propagation, *i.e.*, the initiative to cell-division, is in the case of the latter centralised at the nucleus, whilst in the Moneres this also is still decentralised. What part in all these functions is played by the granules, on that point I will make no conjectures; at all events, they suffice to enable us to speak of a *morphological* structure *in addition to* the *chemical* structure of the protoplasm, and distinguish the *living* lumps of protoplasm specifically from all albuminous droplets externally resembling them. If the *chemical* structure of the proteid substances were alone sufficient to cause the vital phenomena of the protoplasm, it would at least be very surprising that all attempts to produce

Moneres from finely distributed albuminous droplets have hitherto remained without result.

P. 247, l. 11.—J. H. v. Kirchmann asserts in his memoir "On the Principle of Realism," p. 43: "In truth, then, the ideation of the Unconscious has all the determinations which make knowledge in man a conscious knowledge," and seeks to prove this assertion in the following manner: "Now we find in *conscious* knowledge (1.) that it has a content wholly in the form of *knowledge;* (2.) that it knows at the same time this form itself, or that knowledge knows, *besides* its content, at the same time *itself* as knowledge (is conscious *of itself*); (3.) that knowledge can embrace the many *dispersed* ideas received one after another and relate them to one another in the most varied manner, in virtue of the forms of relation inherent in it; and (4.) that knowledge, *in spite of* the plurality of its content and of its ideas being *separated in time,* still *knows* itself *as One.* Now of these determinations affecting the form of knowledge, the Unconscious thinking of the All-One possesses, according to the explanations of the author, unquestionably those under 1, 3, and likewise 4; for the rationality attributed to it, which is essentially expounded as relation of the single ideas in the form of means to others as ends, belongs indeed to the determination under 3, and the all-unity of the Unconscious leads also to the determination under 4. But even the determination under 2 cannot be denied to the thinking of the Unconscious, because only thereby is the *picking out* of the suitable means *from the whole mass of ideas* possible in the special cases of the auxiliary intervention of the Unconscious, and because the contrast of Volition and Ideation must be likewise contained in it as *known,* since the goal, the suppression of the Will by conscious thinking, can only thereby be represented by it at all."

On this the following is to be remarked. Nos. 3 and 4 concern the *union* of the scattered given empirical thought-material in consciousness, or the *connecting relations* of the

content of thought, which is *cut up* both in space and time through the narrowness and discursiveness of perception. Unconscious thinking, however, does not need subsequently to collect the inner manifold of its content into a unity, because it is originally an indivisible totality, not an aggregate of scattered fragments. It need not at all become conscious of its own unity, because its internal plurality is not *given* to it, like conscious perception, but *posited* by it itself, and indeed is posited *in* an indissoluble unity. As little as the form of unity has to be subsequently applied to the matter of the unconscious Idea, so little have the relations in which the many moments and parts of this matter stand to one another and the whole. So far as these relations may be contained in intellectual intuition in general, so far do they lurk implicitly in the matter of unconscious perception, without the latter needing to become conscious of their presence in abstract explication; so far, however, as the relations of our conscious thinking depend on its discursiveness, so far can they in general find no entrance into unconscious ideation. The assertion of Kirchmann that his points Nos. 3 and 4 find application to unconscious thinking in my sense is then certainly erroneous. But as concerns the point No. 1, the expression made use of in the same, "form of knowledge," is altogether ambiguous. If it merely implies as much as "form of ideality" (in opposition to the form of reality or of existence), nothing more is posited by it than the community emphasised by me (and cited by Kirchmann shortly before) of an ideal content without any reality of its own for the unconscious and conscious presentation. If, however, "form of knowledge" means the same as "form of consciousness," then it is precisely the *point in dispute*, whether this determination belongs to unconscious perception, so that Kirchmann cannot render as a *reason* for its affirmation what is only the affirmation itself.

It is, according to this, clear that, of the four points mentioned by Kirchmann, *only the second* touches the core of the pending question, although he leaves something to be desired in clearness of expression. It is declared to be a characteristic form of conscious knowledge that consciousness not merely knows its own content, but that it knows it also as content in contrast to its form, *i.e.*, that it has it for object, wherewith at the same time the knowledge of itself is connected as subject. In truth, the *knowledge* of the form of consciousness as such, and of the opposition of the matter to the same, is only a result of a higher development of conscious intellect, but it remains, therefore, still correct that the actual *existence* of this contrast of form and matter of consciousness and the objectivity of the matter resulting from it is characteristic for conscious thinking. This is, however, only the case because for unconscious thinking this separation and this opposition of form and matter of knowledge, of subject and object of the thinking act, does *not* exist, because here subject and object are in direct identity, or rather still remain in indifference, have not yet stepped out of their original non-separation. This contrast first arises from the real conflict of opposing and mutually inhibiting individual wills. In the All-One, that has nothing outside itself, there is nought conceivable that could disturb the identity of the subject-object in the Unconscious Idea and lead to the separation of reflecting knowledge from thing known.—Kirchmann gives two reasons why unconscious knowledge must at the same time be knowledge of itself as knowledge, *i.e.*, consciousness (or, more precisely, self-consciousness), whose probative force, however, has not become very clear to me, even taken in the sense of its author. He asserts, namely, that, in the first place, the selection of the most suitable means from the whole multitude of ideas, and, secondly, the presentation of volition as contrast of the logical, is not possible without knowledge of knowledge. But now the suitable means are

not deliberately set apart from a whole mass of actual inappropriate representations, but of all possible representations only those become efficient which are logically demanded (demanded, *e.g.*, as means to end). It is not obvious what influence the logical or teleological determination of the quality of the awakening Idea could have on the destruction of the indifference of subject and object or of form and matter in the Unconscious Idea. (Other objections to the unconsciousness of the Absolute Idea derived from the positing of purpose have been already discussed, vol. ii. p. 255 ff.) As little evident is it how from the circumstance that the willing must for the Idea be a *known* one, the other assertion is to be derived that the coming to knowledge of the Will through the Idea must be *conscious*, or that with this knowledge there must be reflection on the knowledge as such. Not, as Kirchmann thinks, as represented goal, but as starting-point, must volition in some way or other become conscious, in order that a process may at all come to pass (see further vol. ii. p. 256–258, and vol. iii. p. 163–169). However, this consciousness is one entirely undetermined in content, that only gives an impulse to the unfolding of the Idea, but does not enter into its content.—Thus, on closer investigation, disappears every semblance of probative force for the proof attempted by Kirchmann of his assertion that the ideation of the Unconscious has *all*, or even only *any one*, of the determinations which make knowledge in man *conscious* knowledge.

P. 271, l. 12.—Comp. here my memoir "Die Selbstzersetzung des Christenthums und die Religion der Zukunft," 2 Aufl., Berlin, C. Duncker, 1874, particularly chap. vii.: "Die historischen Bausteine zur Religion der Zukunft."

P. 271, l. 31.—On the appearance of the sixth edition of this work it was still unknown to me that the hope here expressed had already begun to receive its realisation in a "Christliche Dogmatik" that had appeared simultaneously with my first edition (Zurich, Orell &

Füssli, 1869). The author (A. E. Biedermann, Professor in Zürich) of this book, which I regard not merely as the most important theological, but also as one of the most distinguished speculative achievements of the last generation, may well claim a like position in the Protestant theology of the last third of this century to that of Schleiermacher in the first third, and stands in a similar relation to Hegel as Schleiermacher to Plato and Spinoza. In place of the nebulosity of Schleiermacher, he offers, however, a concentrated wealth of acute speculative thought, and stands on the shoulders of the historico-critical school, whose results he does not hush up like the compromising theology, but accepts in all their clear fulness, and turns to good account as negative transition to his own positive speculation, which is to unfold the proper thought-content of the representable elements in the historical dogmas now breaking up through their immanent contradictions. If the historical continuity of Christianity were in any wise to be saved, it would without doubt be in this way; to my mind, however, the harmony of the thought historically transmitted with that finally sifted out by speculation is so far-fetched, that in the end only the name is saved, concealing something altogether new. But what is pertinent here is the fact that speculative reforming tendencies are showing themselves in the circles of Protestant theology itself, which sooner or later must gather round their flag all who seek to retain a *living* Christianity, thus are averse to a rigid orthodoxy, and yet find themselves just as much repelled by the rationalistic, illuminated, and pale sentimental irreligiosity of liberal Protestantism as by the obscurity and hushing-up system of the theology of compromise. The speculative content of this new reformed theology as a purified Hegelianism is very closely allied to the principles advocated by me, although in some points it departs from it in substance, in others only in terminology (cp. especially the sections "Das Wesen Gottes," § 617–631; "Das Dasein Gottes,"

§ 632–640; and "Der Begriff des absoluten Geistes," § 696–717).

Biedermann too seeks for the higher synthetic unity of a view of the world, which conceives the Absolute only as the *vital force* poured out in the All and of one, which apprehends it as spiritual *personality,* and sees in both only partially true modes of thinking, which must be sublated in the higher conception of the *impersonal absolute Spirit* (p. 645). That he terms the former view the *pantheistic,* appears to be an unessential difference of expression; it seems to me that the etymology of the word "*pantheistic*" would not at all admit of the setting aside of the immaterial spiritualistic moment, and that a view which comprehends the Absolute only as unspiritual natural force can only receive the name of Naturalism or Naturalistic Monism, but not that of Pantheism. On the other hand, the latter term is properly covered by the principle of an impersonal Absolute Spirit, for which Biedermann has not missed the adequate expression. His attempted synthesis of Theism and Pantheism is therefore substantially quite the same as that which is aimed at in my synthesis of Naturalistic Monism and Theism, namely, Spiritualistic Monism or Pantheism.

Biedermann openly acknowledges that the understanding must necessarily be led to conceive the indivisible absolute ground of the inner purposiveness of the world as *impersonal* and immanent, and that every attempt to refer the immanent conformity to law and purpose to the wise will of a personal Creator not only denudes it of its absoluteness, but also brings the immanent purpose of the world into an insoluble antinomy with the personal aims of its Creator (§ 628). He declares that God is not merely immanent in the world in his *action,* and transcendent to it in his being, but that he is immanent to it as very ground of its existence, and that this groundedness of the world is *his being itself,* that does not lie as an otherness behind it (p. 629); that a transcendence of God in respect

of the world can only be asserted so far as he remains unaffected by the forms of particular existence of the world (Spaceness and Timeness), *i.e.*, as he is indeed everywhere and always immanent to finite existence as its *ground*, but yet himself is in no place and in no time (*ibid.*) Nowhere have I found the arguments against the personality of the Absolute Spirit marshalled with such thoroughness, clearness, and acuteness as by Biedermann. He shows that all the proofs of the existence of God can only lead to the conception of an impersonal Absolute Spirit as ground of the natural and moral order, but that the mind only arrives by an illegitimate leap at the supposition of a personality of the Absolute Spirit (§ 632–640). He further maintains that every one of the attributes of God assumed on the part of theology, thought out in all its consequences, leads to an antinomy between the absoluteness and the personality of God, which can always only be regarded as a specialised expression of the general contradiction existing between these conceptions (§ 617–631). Lastly, he deals with this contradiction in its general form, and shows the untenability of all the attempts made from the most diverse sides to obscure or to overcome it (§ 716). To these demonstrations of Biedermann, which excellently supplement my own, I refer all readers who might not feel satisfied and convinced by my expositions, which could not possibly penetrate far into the theological domain within the limits of the present book.

When we consider that Biedermann's work was composed *before* the appearance of the first edition of the "Philosophy of the Unconscious," we should not be surprised that the author still holds to the Hegelian categories of the Being-in-self and Being-for-self of the Absolute Spirit; that he speaks of a reflection of the natural processes and of the acts of individual spirits in the pure Being-in-self of the Absolute Spirit (p. 638), and accordingly of a self-consciousness of the latter (p. 561). It is, however, easily discernible that, with Biedermann's metaphysical point of view, there

is no longer any necessity at all for the assumption retained by him from the traditional Theism that *everything* ejected into natural actuality from the absolute Idea by the absolute Will notwithstanding that it does not cease to be comprehended in the creative Idea of the Absolute Spirit, is again superfluously *reflected* in the Absolute, and thus becomes *conscious* in the same. That in *certain* acts such a reflection takes place is true, but they are in comparison with the total action of the Absolute only *partial* reflections, and can therefore also only produce *partial* apperceptions, *i.e.*, finite individual consciousnesses, but not lead to an indivisible collective consciousness of the Absolute Spirit, to a divine self-consciousness. If there really were such an absolute self-consciousness, this would be the absolute Ego, *i.e.*, the absolute Personality, at least in intellectual reference, and Biedermann's argument against the personality of the Absolute would in this respect be adduced in vain. But since that assertion is only a theistic reminiscence, no longer fitting in with Biedermann's metaphysical Pantheism, it is to be hoped that the consistent following out of his perception of the untenability of the Personality of the Absolute Spirit will lead him likewise to abandon the self-consciousness and the consciousness, and therewith to come over in principle to our point of view. How near he stands to the latter, despite his apparently opposite mode of expression, even in his "Christliche Dogmatik," is best proved by § 627, dealing with the divine omniscience. We there read: "In order to comprehend the knowledge of God as *absolute*, as *omniscience*, the doctrine of the Church commands us to think away all the discursive elements of finite human knowledge (§ 409). But the more this is actually done, *the more disappears also all analogy with a personal knowing*, and there only remains *the impersonal spirituality of the immanent ground of the world*, in which everything that flows from it is of necessity (?) again reflected in it (?)." Apart from this "being reflected," by which the thought is dis-

figured, it is clear enough that "the pure spirituality of the essentially single ground of the whole world-process" (p. 566), which is to admit of no analogy with *personal* knowing, is intended to affirm precisely the same as my unconscious intuition of the absolute Idea, except that it is here not yet clearly elevated into scientific consciousness, that the form of human knowledge, which must be abstracted from absolute knowledge, is nothing more than the form of consciousness.

Before we quit Biedermann, another inconsequence must be pointed out, which likewise must be regarded as a concession to the traditional Theism, namely, he asserts that, although personality must be excluded from the *notion* of the Absolute Spirit, it is yet the only possible *image* through which the essential being of God can be brought home to us, although inadequately, and that the religious feeling cannot dispense with the imaginative realisation of God (p. 645–646). Granted that the unsuitable image of a spiritual personality is always a relatively truer representation than that of an unspiritual natural force, granted also that human thinking can never entirely extricate itself from the soil of sensuous perception, it yet by no means follows from these premises that the "absolute personality" is and *always* must remain the only possible kind of the representation of God. For there is no dualism of concept and percept in human thinking, but thinking is *itself* "*as pure thinking* only a scientific *elaboration* of our *perceptions*" (p. 646). If accordingly, this process of elaboration has once reached such a point that the determination of personality is to be unconditionally *eliminated* from the idea of the Absolute Spirit, all relapse into a surmounted stage of this elaborative process of the ideas is to be unconditionally *avoided*,—notwithstanding the circumstance that even so there is still a residuum of *perceptional* elements in the concept of the Absolute Spirit,—and consequently without impairing religious feeling.

P. 286, l. 3.—Yeast still proved after cooling from −113°

C. a vital stimulator of fermentation ("Naturforscher," 1874, No. 37, p. 351).

P. 287, l. 5.—As these scientific facts are among those cited in my book which have encountered the most opposition, it affords me the greater satisfaction to be able to point to the memoir of a modern exact naturalist (Prof. W. Preyer, "Ueber die Erforschung des Lebens," Jena, Mauke, 1873), who not only gives a connected history of the respective discoveries (from Leuwenhoek's discovery in the year 1701) (p. 25–31 and p. 49–64), but also entirely agrees with my view that the condition in question exhibits the *absolute cessation* of all life, in contrast to all states of vital function, however reduced. He says (p. 31): "And yet there are very many at the present day who would declare all the observations and experiments I have cited, even those instituted by myself, illusions. Since such experiments can, however, be easily instituted (I have demonstrated the facts in my own laboratory and auditorium very frequently for years), the doubts will certainly gradually disappear, and the old views of life be for ever abandoned."—I therefore beg every one who intends to dispute the statements in question first to make himself acquainted with the passages referred to of the above-mentioned brochure. Preyer can the less be objected to on the scientific side as surety as he is an avowed materialist, and even from the fact that life may for a long time completely cease in an organism and then re-awaken, hastily thinks to be able to draw capital for his materialism.

P. 291, l. 18.—A similar case to the stratified grains of Famintzin is presented by the interesting experiments of Moritz Traube ("Journal of the Meeting of Scientific Investigators in Breslau," 1874, p. 191), who by introducing drops of glue into diluted tartaric acid obtained the chemical precipitate of a colloid membrane. The imitation of an organic cell thus obtained showed by intussusception of water the analogue of organic growth. With a proper concentration of the two agents,

the compression of the molecules in the membrane is such that the passage of the chemically different molecules is prevented; on the other hand, the endosmosis of aqueous molecules into the interior of the cell goes on unhindered. In consequence of this, the drop swells, and the membrane is stretched by the pressure from within like a soap-bubble. It would soon burst, if the still undissolved glue in the interior did not form a reservoir, whence it may be recruited. The water, namely, that has effected an entrance, dissolves some glue, and as soon as the interstices between the molecules of the membrane become by the stretching of the latter so great, that the molecules of the glue and of the tannic acid can communicate with one another through the same, new molecules are precipitated owing to this chemical contact, which arrange themselves in the tissue of the membrane, and thereby strengthen it. If the drop of glue is attached in hanging fashion to the glass rod supporting it, the concentration of the gelatinous solution is everywhere pretty much the same, and the increase therefore tolerably equal at all parts, so that the spherical shape is on the whole preserved with the augmentation. On the other hand, if the drop is attached lying or standing to the upper end of the glass rod, the solution of glue is arranged by the influence of gravity in horizontal layers, that become ever more diluted above (remote from the glue-reservoir). In consequence of this, the parts of the membrane at the top of the cell are more unfavourably situated as regards the nutritive material; they become thinner than the others, and therefore yield more to the equal hydrostatic pressure. The result is that at the apex of the cell the tension of the membrane is strongest, therefore also the opportunity of growth greatest, *i.e.*, that the cell stretches most in the direction opposed to gravity, thus grows into a horizontal sac.—These experiments are well adapted to explain the most elementary processes of organic cell-growth and the partial dependence of the favoured

direction of growth on the direction of gravity, on the mechanical side, in that they set up analogous, but also certainly only analogous, relations. For the difference is at once evident that in the organic cell-growth the nutritive matter is received from without, whilst here it is given to the cell as an internal store of gelatinous material, and the cell swells only through the absorption of water. The living cell contains the phases of youth, age, and death morphologically preformed in itself; the glue-cell is simply limited in its growth to the quantity of its given store of food; it does not die of decrepitude, but because it has emptied its food-reservoir (in case the membrane holds out so long). The organic cell lives by morphological and chemical moulting, *i.e.*, by change of matter; for that there is required, however, not merely reception of matter, but also excretion of matter. The glue-cell has no excretion of matter, and therefore no change of matter, *i.e.*, no life; there takes place in it no chemical, and still less a morphological moulting process. The only chemical reaction that takes place in it is the first precipitate and the subsequent gradual strengthening of the membrane; this process belongs, however, in the organic cells to the vital process only so far as secretion belongs to the vital process of an organism, and the secretion as such can just as little be called living as the shell of the snail, the web of the spider, or the urine of man are called a living part of these organisms. Like the Moneres, most cells pass their youth, when they are most alive and perform the chief part of their functions, without precipitating a membrane, and with the secretion of such an encysting-stage already begins, in which the living intercourse with the outer world is limited or entirely abolished. This excluding precipitated membrane is therefore as little as the calcareous capsule of the gargol or trichine to be considered a living part of the organism, but at the most as a *caput mortuum* of past vital action. That vital action was secretion; but secretion can only be

considered a vital function when it occurs as result of the change of matter or of the moulting of a living organism, and we can never reason backwards from the external resemblance of a chemical superficial precipitate with the superficial secretion of living cells to a vital process, when the criterion of such, the regular and predetermined change of matter, is obviously wanting.—It seemed necessary to recall these important differences between the organic cell and the inorganic glue-cell in order to avert hasty conclusions, which might be drawn on the part of materialism from these in themselves extremely interesting experiments, although their contriver would certainly be least inclined to overlook, in their resemblance, the difference in principle of the two phenomena.

P. 328, l. 7.—Another distinguished botanist, N. Pringsheim, at the close of an examination of the connected series of forms of the Sphacelariæ, which leads from the simple Confervæ-like Ectocarpeæ through the genera Halopteris, Stypocaulon, &c., to the Cormophytes-like genus Cladostephus, expresses himself in the following manner (Transactions of the Physical Division of the Academy of Science of Berlin, 1873, extracted in the Naturf., 1874, No. 4): "Here a more favourable progressive adaptation of the variations to the life-conditions in which they have arisen is neither supposable nor demonstrable. The differences of form that arise nowhere exhibit distinct, physiologically advantageous peculiarities; they depend essentially on slight, gradual variations in anatomical structure, and in the position of the ramifying systems.—With these simple creatures this struggle (for existence) is limited to at the most a struggle for room. The only point that would here be of importance, the variety, the number, and the self-preserving power of the reproduced forms, speaks in no plain manner for the observance of the direction which the series has taken in its development. In contemplating these and other similar series among the lowest plants, we cannot fail to see that the

first variations of form in these simplest organisms are of a *purely morphological* character, *i.e.*, that they have *no* demonstrable relation to any physiological functions whatever that are of *importance* for the maintenance of life. The existence of such purely morphological series appears to me decisive on the question as to the causes of the formation of species. Do not the series — not to go beyond the Algæ—of the Protococcaceæ, Palmellaceæ, Desmidiaceæ, Diatomeæ, Confervæ, Ulothritheæ, Ceramieæ, Polysphonieæ, &c., consist of such purely morphological species *in direct contradiction* to the Darwinian theory? Yet in all these series an *evolution* of the forms, proceeding from the simple to the complex, from the imperfect to the perfect, is unmistakable. Thus these lower purely morphological series decidedly tell in favour of the view, that the struggle for existence *does not of itself suffice* to explain the accumulation of the form-variations in a *constant direction* from the simple to the manifold through the whole created series. This struggle presupposes, indeed, of necessity, the physiologically more favourable nature of the arising variations, and the accumulation of these favourable qualities in the favoured direction. These conditions are, however, *wanting* in the development of the purely morphological series of species of the lowest plants. Here those *internal guiding forces* which urge on the development of the ever-accumulating variations in the favoured direction appear *in their purity*, unmixed with the effects of the struggle for existence, and do not allow a doubt of their existence."

P. 328, l. 19.—Another zoologist, Moritz Wagner, is, equally with Kölliker, an adherent of the theory of Descent, but at the same time regards the theory of Natural Selection as not merely of itself insufficient, but even false and wholly worthless. Now this is manifestly too extreme an opposition; but the arguments against the Darwinian over-estimate of the theory of Natural Selection which Wagner has marshalled in various treatises, and recently

in "Ausland" (1875, May to July), are at all events well worthy of notice. His view is, that the local separation of several or a few individuals of an existing species is not only, as also Darwin admits, a favourable circumstance for the origin of a new species, but the indispensable condition, and at the same time forms the sufficient cause of this occurrence. If even his assumption were true, that the return of the novel variation into the stock by crossing is to be prevented by *no other* means than by local separation of one or several pairs (which at all events is still unproven), yet the separation could always only be condition, but never cause of the formation of a new species, and the question, which principle positively calls forth those important variations of separated individuals that are merely protected from destruction by separation, would still remain open after as before. The very examples cited by Wagner are such, that a recession to Geoffroy's principle of the influence of changed external circumstances on the organism must here appear still more insufficient than the Darwinian insistance on the principle of selection; and that Wagner too, when perfecting his "Seclusion Theory" on the *positive* side, must necessarily come to recognise "inner guiding forces" as an "indwelling tendency of development," *i.e.*, an organising principle determining the direction of the variation.

P. 329, l. 24.—The conjecture here thrown out by me has in the meantime been verified by a discovery of the marine apothecary, A. Bavay, in the volcanic rocky island Guadeloupe, according to which a species of small frogs (*Hylodes martinicensis*), found there in great abundance owing to the absence of marshes and fresh water for their life as tadpoles, simply pass through the tadpole-stage within the ovum, and emerge from the shell complete tailless little frogs ("Naturforscher," 1873, No. 17). In this particular case, the putting back of the metamorphosis into the embryonic life has certainly led to no further development-series of higher organisms; but the example offers us at least an analogy, according to which those

reptiles also, from which the higher orders of the animal kingdom have sprung, may have developed from amphibia.

P. 331.—Comp. with this chapter my book "Wahrheit und Irrthum im Darwinismus; eine kritische Darstellung der organischen Entwickelungstheorie," Berlin, Carl Duncker, 1875.

P. 334, l. 14.—Comp. my "Erläuterungen zur Metaphysik d. Unbew.," p. 52–57.

P. 344. l. 29.—Comp. with this section my "Erläuterungen zur Metaphysik d. Unbew.," p. 57–74.

VOL. III.

P. 4, l. 16, and in A. Taubert, "Der Pessimismus und seine Gegner" (Berlin, C. Duncker, 1873), p. 70–76. That even Hegelianism is an evolutionism not hostile to, but inclusive of Pessimism; that it only views with a too hard and cold indifference the crushing of innumerable individual destinies by the iron wheel of historical progress, but at the same time recognises the tragic fate of everything finite to be consumed in the contradiction of its own existence, has been excellently shown by J. Volkelt ("Das Unbew. u. d. Pess.," p. 246–255).

P. 12, l. 3.—Comp. here Taubert, "Der Pessimismus und seine Gegner," No. 2, "The worth of life and its estimation."

P. 13, last l. but one.—Comp. Taubert's "Pessimismus, p. 27–28.

P. 15, l. 15.—Or if an unconscious will should actually exist, it is yet too weak to render itself observable by its non-satisfaction; and we may conclude *a fortiori* that *this* degree of will must be too weak to make itself perceptible by its satisfaction.

P. 27, l. 17.—Comp. with this section Taubert's "Pessimismus," No. 3, "The privative goods and work."

P. 41, l. 4.—Comp. also vol. i. p. 241, l. 20. Only unfortunately the point of view of the reconciliation of instinct with a consciousness enlightened by a philosophic

monism still remains a *theoretical postulate*, that in *practical* reference must be realised by continuous conflict and ethical wrestling with an unbroken and persistent egoism. The reconciliation which philosophy offers, the ethicising of natural impulse, is no possession to be acquired once for all and then maintained without effort, but it is the enduring struggle of the reason of the All-one Unconscious arrived at consciousness with the necessarily given selfishness of natural individuality, which only when waged with energetic untiring zeal, and favoured by the bent of the original character, leads to the habitual harmony of virtue. This is, however, not to be supposed the ordinary point of view of human consciousness at the present time any more than is the naïve, still perfectly unbroken sway of natural instinct; rather is the discordancy of individual consciousness and its selfishness with the demands reaching beyond the individual of the instinctive and the philosophical reason to be regarded as the normal condition, whether this disharmony is only beginning to show itself in the innocence of native ingenuousness, whether it has developed to the bitter length of an apparently inextinguishable conflict; or, lastly, whether with the postulate of the subordination of the individual will to the All-Will a final solution and the method of reconciliation are revealed. And just because each fresh human being has always anew the destiny to give birth to and to conquer this discord in himself, because, however, the conquest is wont soonest to succeed when it has *behind* it the struggle of youth (which is the proper time of sexual love), I thought myself warranted in my examination in assuming the *discord* of the conscious individual will with the unconscious purpose as the empirically given normal condition (comp. vol. i. p. 232).

P. 41, l. 8.—Comp. on this section Taubert's "Pessimismus," No. 4, "Love."

P. 42, l. 2.—Comp. Taubert's "Pessimismus," No. 5, "Compassion."

P. 48, l. 34.—Thus the instinct to contract marriage

and found a family, and the desire to possess and to rear children, appears one of a number of connected instincts that mock egoism with delusive expectations, but are of the utmost importance for the maintenance of the world-machinery and the progress of the world-process. As love has the purpose of *producing* the most capable succeeding generation possible, so the instinct to conclude a marriage and found a family serves to *educate* the generation thus produced to the utmost excellence possible. As long as it is an irrefragable truth that no foundling-hospital nurture and orphan-house education can replace the maternal care and family education, so long will all the revolutionary plans directed against the existence of marriage and the family be dashed to pieces on the unconscious reason of history; for however much they may demonstrate that (what admits of no doubt) marriage brings with it the greatest inconveniences and that (what is very doubtful) people would be better off with the abolition of this social arrangement, yet the comfort of the spouses comes only in quite a secondary fashion into the question as to the value of marriage, since the family does not primarily exist for the sake of the married couples, but for the sake of the *children.* Hence there lies hidden in the belief subjectively so unreasonable of the lovers in the imperishability of their love so deep an objective reason. This illusion is only the bait to lead egoism to sacrifice its freedom, by imposing upon itself the legal bond of a permanent social fellowship, to which without this illusion it would at least with far more difficulty submit.

P. 60, l. 31.—Comp. hereon Taubert's "Pessimismus," No. 7, "Happiness as virtue."

P. 66, l. 26.—Comp. here Taubert's "Pessimismus," No. 7, "Happiness as æsthetic view of the world," and No. 6, "Enjoyment of Nature."

P. 88, l. 8.—The most complete and searching "Critique of the Idea of Immortality" in a small compass of a strictly scientific character is to be found in Biedermann's

"Christliche Dogmatik" (§ 949–973), where it is shown that a *religious* interest has been taken in immortality by historical Christianity only by reason of erroneous suppositions, but that in truth the question as to continued existence after death is *indifferent* for religion, and cannot be answered otherwise than in the negative on the part of anthropology and metaphysics.

P. 88, l. 27.—Comp. also Taubert's "Pessimismus," No. 9, "Happiness hereafter."

P. 115, l. 2.—Comp. with this Taubert's "Pessimismus," No. 10, "Happiness as realisable in the future of the world."

P. 129, l. 22.—We see from this that the individual negation of Will, even if it could lead to any result, would yet only concern the concrete phenomenon, without ever altering the essential being underlying this phenomenon. But if the assertion should be seriously maintained that the individual negation of will can affect and deny the essence of the will to live itself, it would immediately follow on monistic suppositions that then the first individual actually accomplishing in himself the negation of will must annihilate the All-Will, the will to live in its absolute totality, *i.e.*, the whole world at a blow. This consequence even Schopenhauer sees himself compelled occasionally to admit. He says (W. as W. a. I., trans. by Haldane and Kemp, i. p. 167), after showing that the unity of the will is unaffected by the plurality of the stages of objectification and the number of individuals at any stage, as follows:—"We may therefore say that if, *per impossible*, a single real existence, even the most insignificant were to be entirely annihilated, the whole world would necessarily perish with it. The great mystic Angelus Silesius feels this when he says—

> 'I know God cannot live an instant without me,
> He must give up the ghost if I should cease to be.'"

From this passage it is evident to him himself that such an assumption can only be made *per impossible*. In his

individual theory of redemption he has obviously left this impossibility out of sight, when he endeavours to maintain a difference in effect between suicide and an ascetic mortification of the body and of the will to live.

P. 142.—Comp. my "Erl. z. Met. d. Unb.," p. 33–35 and p. 74–80.

P. 154, last l.—Comp. my "Erl. z. Met. d. Unb.," p 12–22.

P. 173, l. 32.—Comp. on the preceding section my "Erl. z. Met. d. Unb.," p. 35–40. V. Kirchmann has protested against the application of the calculus of probabilities in the case before us ("Princip. des Realismus," p. 46–47), because the principles of the calculus of probabilities are only admissible on the assumption of a regularly acting causality, which supposition is here not satisfied. In opposition to this, it is to be remarked that a rigid uniform causality excludes, on the contrary, all computation of probabilities, which latter rather presupposes the assumption of non-causal *chance*, and is altogether dependent thereon. Now we certainly know that chance apart from causality has no place within the world-process, and therefore the whole calculus of probabilities is in strictness based on a mere fiction. This fiction is only possible on account of the insufficiency of our knowledge of the causes acting in the concrete case, since with perfect knowledge of these we should no longer talk of probability, but of certainty. On the other hand, however, this fiction is indispensable for our cognition, since probability offers us the *only compensation* for the certainty we are always desiderating. That now in spite of its fictitious basis the calculus of probability yields results relatively so exact lies in this, that with a more frequent recurrence of the same event for the most part only a part of the co-operant causes remains constant; another part, however, is so far variable that the effects compensate one another more completely, the more frequently the event is repeated. The constant causes, which are seen to be such, can now not be the basis of the calculus of probability, since their

effects must be assumed to be necessary; the variable causes that compensate one another, however, do not afford an opening for the calculus of probabilities, *because* they act in each single case with regular causality, but *rather precisely because* in a larger series of cases their action is neutralised, *i.e.*, because the same result turns out *as if no causality had acted at all, but as if the variations of the several cases had been purely accidental.* What is here within the world-process a mere fiction (which certainly is not only practically harmless, but even a positively useful surrogate of the true state of the case), is in the instance of the uncaused resolve of the Will to will perfect truth; the calculus of probabilities, which is only *abusively* applied to the properly strictly necessary events within the world-process, is *rightly* applicable in this unique example.

P. 184, l. 2 .—The "Idea" means in this passage not (as V. Kirchmann misunderstands it—"Princ. d. Real.," p. 36–37) "the *whole* unconscious *mass* of representations of the first attribute," but the IDEA as logical formal principle, as *matrix* of an infinite possible unfolding of unconscious intuitions; for of an actual mass of representations there can of course be no question at the commencement of the process, when the Will seizes the Idea.

P. 186, l 10.—Comp. with this the inquiries on the nature of causality in my memoir, "J. H. v. Kirchmann's erkenntnisstheoretischer Realismus," No. 15–22 (Berlin, C. Duncker).

P. 187, l. 32.—Comp. on this section my "Erl. z. Met. d. Unb.," p. 28–35.

P. 194, l. 3.—Comp. my "Erl. z. Met. d. Unb.," p. 22–28.

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